THE JOHN CRERAR LIBRARY
FEB 17 1928

15 Cents a Copy

The OIL and GAS JOURNAL

PRODUCING REFINING MARKETING

Published Every Thursday TULSA, OKLAHOMA, FEBRUARY 16, 1928 $6.00 a Year

MADE OF KEYSTONE COPPER STEEL

MADE OF KEYSTONE COPPER STEEL

MALONEY TANKS ARE LEADERS IN THE CONTEST WITH CORROSION–

The arch enemy of steel tanks is corrosion, caused by weather, salt and acids. MALONEYS are unequalled for resistance to corrosion because they are made of the most highly rust-resisting sheet steel known—Keystone Copper Steel. In actual exposure tests conducted by the American Society for Testing Materials, copper bearing steels stood up long after other types had failed. The world wide preference for MALONEY Tanks is a direct result of their record of exceptional durability and long-run economy.

MALONEYS are perfected in every mechanical detail. Parts fit accurately because of our patented "crimp" at seams and joints. Superior rubber gasketing and our Gaso Cement render all seams vapor-tight. Seams are reinforced with rigid channels. Our new bolts of 90,000 pounds tensile strength, 35% stronger than ordinary bolts, are used. Cleaning-out plates are large and set flush with bottoms. Valve and thief hatches are the best the market offers. Paint is MALONEY Special Pearl Gray Paint.

The photograph shows a battery of 14 500-barrel MALONEYS in use by the Carter Oil Company on Walter Wise No. 2, Bowlegs.

"Alone in Quality"

MALONEY TANK MFG. COMPANY
Tulsa, Okla., U. S. A.
Distributors at All Principal Petroleum Points

Howell Aluminum "3-in-1" Vacuum Pressure Valve and Thief Hatch—The BEST and LATEST Deck Equipment—POSITIVE Safety

Sizes: 12 to 10,000 Barrels

Packed in Steel-Bound Crates for Export

MALONEY PATENTED BOLTED COPPER-STEEL TANKS

MALONEY

Advertisers' Index on Page 25 Table of Contents on Page 26

"1788 HIGHFLEX" BELT

is making endurance records in the OIL FIELDS

This brawny, flexible, heavy-duty belt is giving oil men a new slant on endurance and economy. Here's a typical case, reported by a well-known drilling contractor in the Southwest.

Belt, 12" 7-ply Goodrich "1788 Highflex."

Well No. 1. Drilled 4385 ft., starting with 20" tools and finishing with 5 3-16" tools. Under-reamed 1200 ft. of 8¼" hole.

Well No. 2. Drilled 2962 ft. with 20" to 6⅝" tools, and reamed 800 ft.

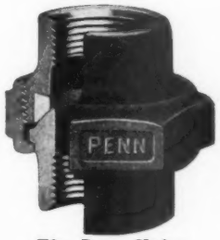
Well No. 3. Drilled 2634 ft. with 20" to 6⅝" tools.

Nearly two miles of drilling—double the service previously obtained from other rubber belts! Put "1788 Highflex" on your toughest drilling and pumping jobs.

No folds to buckle and start bootlegging. Highest quality heavy, hard-woven duck. Pure gum, elastic friction, Square edges, sealed.

THE B. F. GOODRICH RUBBER CO.
Established 1870 Akron, Ohio

Goodrich
"1788 Highflex" Belt



The Penn Union

The Walco Union

A TYPE of UNION for EVERY SERVICE

Penn Union: For 200 pounds W.S.P. Malleable iron and brass; ground ball joint insures perfect connection; inserted brass ring wedged into malleable iron, cannot be dislodged. No gaskets required.

Octa Penn Union: For 250 pounds W.S.P. A heavy union of malleable iron with inserted brass rings forced firmly into the iron; no gaskets required. Octagon nut permits making up quickly.

Walco Union: For 250 pounds W.S.P. Malleable iron with brass seat ring forced into iron under high pressure; hexagon ring and round ends ribbed. No gaskets required. Every Walco is air tested under water.

Octa Penn X Union: For 300 pounds W.S.P. Heavy construction, intended for severe service. Inserted brass rings forced into malleable iron, with ground seat insuring a tight joint. Can be reconnected many times without injury.

Walworth Kewanee Union: 3-piece construction, no inserted parts. Forged bronze to forged steel ball-joint seat insures tight joint even in sagging lines; bronze thread connection prevents corrosion. Every Kewanee Union is air tested under water. Recommended for 300 pounds W.S.P. at 500° F. in sizes 1″ and smaller; 250 pounds W.S.P. at 500° F. in sizes 1¼″ to 3″ inclusive; and 200 pounds W.S.P. at 450° F. in sizes 3½″ and 4″.

The Octa Penn Union

The Octa Penn X Union

WALWORTH

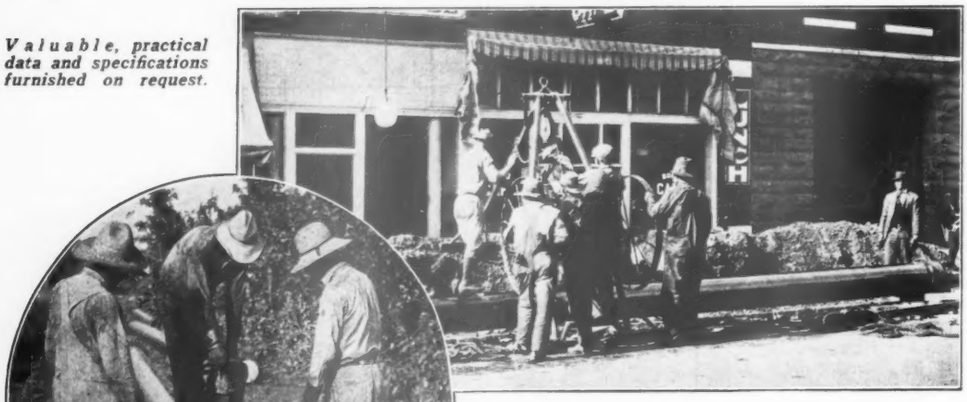
Walworth Company, General Sales Offices: 51 East 42nd St., New York
Plants at Boston, Mass.; Kewanee, Ill.; Greensburg, Pa., and Attalla, Ala.

Distributors in Principal Cities of the World

Walworth Co., Limited, 10 Cathcart St., Montreal, P. Q.
Walworth International Co., New York, Foreign Representative

The Oil and Gas Journal, issued weekly by The Petroleum Publishing Company, 114-116 West Second Street, Tulsa, Oklahoma. Subscription price $6.00 a year; 15 cents a copy. Entered as second-class mail matter December 16, 1911, at the post office at Tulsa, Okla., under the Act of March 3, 1879

Valuable, practical data and specifications furnished on request.



No skilled labor necessary to apply Biturine Enamel.

EXPERTS CLAIM PIPE LINE CORROSION LOSSES CAN BE LARGELY REDUCED

PROPER PROTECTIVE COATINGS WILL ADD YEARS TO SERVICE

Discussing the oil and gas industries' problem of pipe line maintenance, members of the American Institute of Mining and Metallurgical Engineers declared that the application of proper protective coatings would largely eliminate corrosion losses and add years to pipe line service.

Biturine Enamel Prevents Corrosion Permanently

For more than sixteen years many leading oil and gas industry executives have been successfully solving pipe line corrosion problems with Biturine Enamel—the permanent corrosion preventive. Hundreds of miles of pipe line have been coated with Biturine Enamel and operators have pronounced it entirely successful in giving permanent protection.

Unaffected by Acids, Alkalis or Electrolysis

Biturine Enamel is a heavy, quick-setting bituminous coating, tough but not brittle. It is applied hot and requires no wrapping. Adheres tightly to metal and will not crack. It is absolutely impervious to corrosive elements. No skilled labor necessary.

Biturine Enamel is manufactured by Hill, Hubbell & Company as one of a special line of paints for the oil industry.

HILL, HUBBELL & COMPANY

Manufacturers of

Highest Grade Oil Industry Paints and Pipe Line Coatings

Factories: SAN FRANCISCO and TULSA

Offices:

SAN FRANCISCO
SEATTLE
LOS ANGELES
TULSA
PORTLAND
HOUSTON
NEW YORK
BALTIMORE

LANDIS—A PIPE SHOP'S BEST ADVERTISEMENT

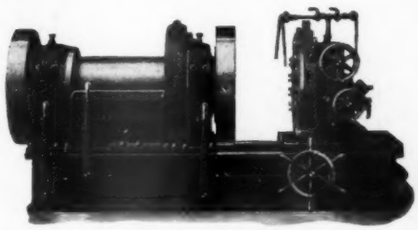
...ESE 7-
2SENE 29-
NESE 5-
E 5-4s-3w
w and E2
nd E2NE
w and E2
-4s-3w and
and NW
NENESW
E2NWSW
w.
E2SWSW
W and E2
WSE 33-
ENW and
s-3w.

ERS
Fields, of
the Fed-
an., has
American
nounce-
man of
eeds the
h, Mo.

...Coffman to First Natl Bank Davis, live stock corn $100.

By T. B. McLISH, Undersheriff.
(Published in Krohn Oil Review Nov. 24 and Dec. 1, 8, 15 and 22, 1927.)

Casing–Rotary Tool Joints–Fittings



Our new 12-in. Landis Pipe Machine enables us to cut well formed, full tapered threads that mean tight joints. All work first class.

Can furnish casing from 2-in. and larger, from stock. Prepared to make all sizes of inserted liners. All kinds of machine and welding work done to your satisfaction.

HARRY ABELS MACHINE SHOP

HEALDTON Phone 113 OKLAHOMA

Owners and Managers of pipe shops throughout the Oil Fields are convinced that their best guarantee for good threads, quick and dependable service is—LANDIS Pipe Threading and Cutting Machines. The 12″ LANDIS in Mr. Abel's shop has been found satisfactory and profitable. Satisfactory in that his customers know they are obtaining good work done on a good machine. Profitable in that every thread is cut quickly in one pass and that there are no breakdowns and time out for repairs.

The 12″ LANDIS has universal chucks which are self centering to the pipe.

The rear chuck is equipped with flange grips which enable the joints to be made up in the proper manner.

All gears are wide faced, cut from steel and run in an oil bath. The drive shafts have bronze bearings.

A reversing mechanism is located in the gear box and controlled by a lever conveniently for the operator.

The reaming tool is locked for the reaming operation. This tool can also be used for chamfering the ends of the pipe.

The Landis Die Head and long life chaser adds the finishing touch to a machine that is designed and constructed for producing good threads cheaply.

Follow the example of those who make cutting of threads a business.

Install Landis in your shop and note the improvement in quality; the increase in output and the reduction in costs.

May we send complete information to you?

LANDIS MACHINE COMPANY, Inc.

WAYNESBORO, PENNA.

Detroit Office: 5928 Second Blvd.

DOMESTIC AGENTS: Marshall & Huschart Machinery Co., Chicago, Ill.; Marshall & Huschart Machinery Co. of Indiana, Indianapolis, Ind.; Colcord-Wright Machinery & Supply Co., St. Louis, Mo.; R. B. Whitacre & Co., St. Paul, Minn.; Hamilton Machinery Co., Chattanooga, Tenn.; Young & Vann Supply Co., Birmingham, Ala.; Woodward, Wight & Co., New Orleans, La.; Jos. T. Ryerson & Son, Houston, Texas; Hendrie & Bolthoff Mfg. & Supply Co., Denver, Colo.; Salt Lake Hardware Co., Salt Lake City, Utah; Harry M. Euler Co., Portland, Ore.; Hallidie Machy Co., Seattle, Wash.; Hallidie Co., Spokane, Wash.; Herberts Machinery & Supply Co., San Francisco, Calif., and Los Angeles, Calif.

FOREIGN REPRESENTATIVES: Benson Brothers, Ltd., Sydney; Schuchardt & Schutte, Berlin, Vienna, Prague, Warsaw; R. S. Stokvis & Zonen, Rotterdam, Brussels, Soerabaya; M. Almeida & Cia, Sao Paulo, Rio de Janeiro; Alfred Herbert, Ltd., Coventry, Calcutta, Osaka; Burton Fils, Paris; D. Drury & Company, Johannesburg.

CANADIAN AGENTS: Canadian Fairbanks-Morse Co., Toronto and Montreal.

It's what is back of the advertisement that counts

Back of this advertisement and the Pure Oil salesmen, back of the products which they sell, is a vast army of men — ready to serve you. Hundreds are working in Pure Oil's producing fields, others are operating its modern refineries. Some direct the movements of Pure Oil tank cars while some flash orders over private telegraph lines. *Every* operation from wells to you is ably controlled by The Pure Oil Company — your assurance of uniform quality . . . delivery on the dot!

Pure Oil is an independent company . . . and is successful because of unvarying high quality in all of its products.

Mr. Jobber: the organization back of this advertisement can serve you well. When you need any petroleum product phone, write or wire the nearest Sales Office

THE PURE OIL COMPANY

U. S. A.

Producers, Refiners, Marketers of a complete line of petroleum products

REFINERIES:

Marcus Hook, Pa.
Cabin Creek Jct., W. Va.
Heath, Ohio
Ardmore, Okla.
Muskogee, Okla.
Smith's Bluff, Texas

SALES OFFICES:

Chicago
New York
Philadelphia
Pittsburgh
Columbus, O.
Minneapolis
Tulsa, Okla.
Charleston, W. Va.
Atlanta, Ga.
Beaumont, Tex.
Pensacola, Fla.

McCORD POSITIVE SIGHT FEED LUBRICATORS

Dependability
Accessability
Economy—

The IMPROVED McCord Positive Sight Feed LUBRICATOR

Incorporating all of the qualities that made the McCord Class "B" Lubricator, the "Standard of the Oil Field," the new "LD" establishes new standards in Oil Field Lubrication. Built strong with all parts interchangeable, it will supply dependable lubrication under any and all conditions of Oil Field service.

Here are five major improvements exclusive with McCord Class "LD" lubricators.

1. Positive sight feed—every drop of oil passes through the sight feed glass—a positive check on your lubricating system.

2. Pumps successfully against pressures in excess of 5,000 lbs. This pressure keeps bearings clean and forces the oil to every point of lubrication.

3. Self-priming—will not become air bound—another positive check.

4. Pumps any grade of oil from 600W to Kerosene—adapts the "LD" to any and all types of service.

5. A new standard in accuracy—pumps from one tenth of a drop to ten full drops per revolution, another exclusive McCord advantage.

For engines, pumps, compressors and other lubricating requirements in the oil field, the exclusive McCord features make the "LD" Lubricator an outstanding one. Specify a McCord "LD" on new equipment and order it for replacement on present equipment.

Distributed By
NATIONAL SUPPLY CO.
All Branches

McCord Radiator & Mfg. Co.
LUBRICATOR DIVISION
Force Feed Lubricators,
McKim Gaskets and Radiators
DETROIT, MICH.

ARMOR!

Showing Carey Asbestos Pipe Felt being wrapped around pipe, protecting it from the weather and corrosion.

This economical pipe covering fights off Corrosion!

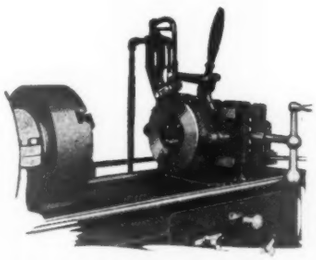
SAFEGUARD those pipe lines for years to come—with Carey Asbestos Pipe Line Felt. Rock asbestos fibre, saturated through and through with everlasting asphalt. Waterproof, rot-proof. It will not char when used with hot asphalt, neither will it shatter off when the pipe is lowered into the ditch. Armor those pipes! Write.

Also manufacturers of Carey Roofing, Asbestos Insulation, Asbestos Cement Shingles, Elastite Expansion Joint, Bridge Flooring, Waterproofing Felts, Roll Roofing, Felt Shingles, Corrugated Asbestos Roofing and Siding.

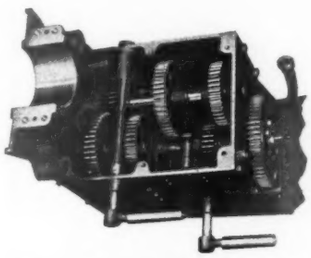
The Special Industries Department
THE PHILIP CAREY CO., *Lockland,* Cincinnati, Ohio

R. B. Hall, Special Representative
417 Magnolia Building, Dallas, Texas

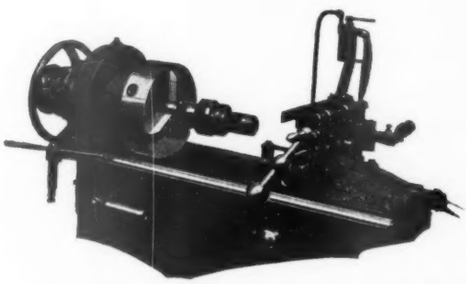
Carey
ASBESTOS PIPE LINE FELT



Quick Opening Die Head



Gear Case running in oil assuring perfect lubrication.



View of machine showing position of nipple chuck, cutting off tool and reamer.

Capacity: ¼ to 2 inches inclusive. With Universal Drive Shaft will operate stocks up to 12 inches. Note Grinding Attachment—2600 R.P.M.

THE NEW NYE POWER MACHINE

THE old gentleman who resigned from the Patent Office in 1880 because, as he said, everything had been invented, had nothing on most of us.

There are times when we all begin to feel that mechanical equipment is as perfect as man can make it.

Take Power Threading Machines, for instance. In spite of thousands of dollars lost each year in old type equipment, production men are satisfied—until of course, someone comes along and shows them where 500 per cent can be saved.

Making production men dissatisfied with their present equipment is our business. Here is a new type of Bolshevism that pays all around.

Study closely the points of interest on the new Nye Power Threading Machine, and you will note why we can make production men dissatisfied.

All gear driven, no belt or chain drives to stretch. Spindle gear and speed change gears are enclosed in case and running in oil. All bearings Self Oiling.

Automatic Pump,—continuous flow of threading oil from four gallon reservoir.

Full floating roller and wheel cutting off device and reamer attached.

Chuck with special patented split jaws which insures holding pipe without exerting excessive pressure when tightening jaws. Die head floats in cross slide of carriage attached to bed of machine.

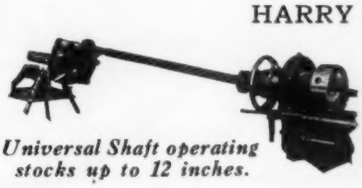
Equipped with either solid dies or Adjustable quick opening die head ½ to 2 inch, one horse power A.C. or D.C. motor, guaranteed to drive stocks threading up to 12 inch pipe with universal shaft. Operates from 110 to 220 volt line circuit.

What a relief it would be to you to take this NEW POWER MACHINE to your next job and know that you do not have to shorten your life by worry and physical exertion and cut your cost 500 per cent.

The NYE POWER MACHINE makes this possible. It brings profits to the far sighted contractor.

Investigate all other machines then compare. Your machine is waiting for you. Won't you write us for it today?

HARRY G. NYE.



Universal Shaft operating stocks up to 12 inches.

Otherwise Known as

THE NYE TOOL AND MACHINE WORKS
4120-30 Fullerton Avenue
CHICAGO, ILL.

There Are Over 1,000,000 Feet

of

JONES

A. P. I. Specification

SUCKER RODS

Now in Use

"High Manganese"
RODS

Made in Both Box and Pin
and Double-Pin Types

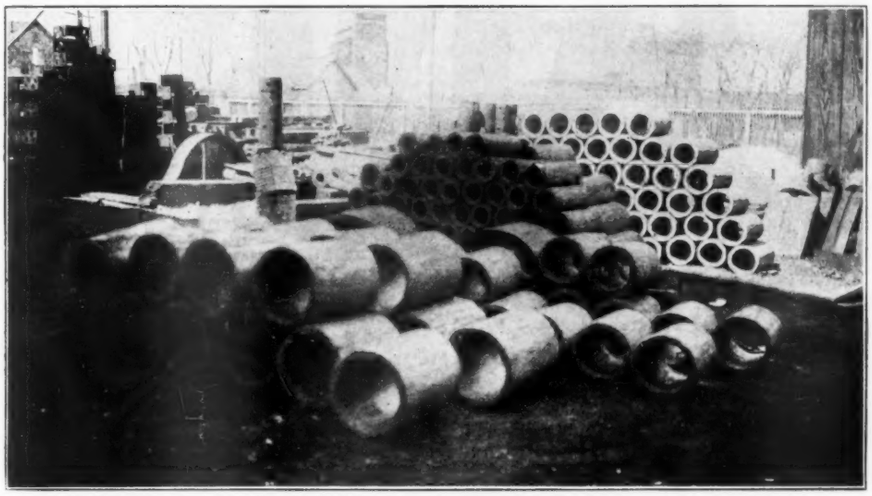
Distributors

Republic Supply Company

GENERAL OFFICES - HOUSTON, TEXAS

OIL AND GAS WELL SUPPLIES

ROTARY AND CABLE TOOLS



Casing Shoes of Agathon Steel made by Beaumont Iron Works, Beaumont, Texas

Agathon Steels of Fine Forging Qualities

FORGEMEN throughout the country appreciate the uniform texture, freedom from blow-holes, pipes, segregations and surface defects of Agathon Alloy Steels. The roughnecks in the field appreciate the toughness and wear-resisting qualities of these super-steels. And the operators, too, appreciate the lack of delays usually experienced with inferior steels.

Agathon Alloy Steels are made in various analyses to meet the individual requirements of casing shoes, bits, jars, tongs, etc. Write us for details and a copy of our Agathon Alloy Steel Handbook.

Mid-Continent Office:
406 W. First St.
Tulsa, Oklahoma

Central Alloy Steel Corporation, Massillon, Ohio

World's Largest and Most Highly Specialized Alloy Steel Producers

Makers of Toncan Copper Mo-lyb-den-um Iron

Cleveland Detroit Chicago New York St. Louis
Syracuse Philadelphia Los Angeles Tulsa Seattle
San Francisco Cincinnati

AGATHON STEELS

AGATHON ALLOY STEELS

TANKS

REFINERY AND STORAGE

FOR over a quarter of a century "United" has been supplying steel tanks to the representative refining and producing companies in the Mid-Continent and Texas Fields. A roll call of users would include the majority of the successful operators. These users prefer "United" tanks because of their dependability—and because they do their work for many years at practically no maintenance expense.

ALL SIZES UP TO 80,000 BBLS.

An unusual service to the oil industry is supplied by "United"—through the maintenance of standard sizes of steel tanks in stock for prompt shipment. Field erection crews maintained at advantageous points insures proper and prompt erection upon arrival.

We Solicit Your Inquiries
WIRE—WRITE—PHONE

Manufacturers of RIG IRONS and STEEL EQUIPMENT STEEL TANKS DRILLING MACHINES SWAB BARRELS

UNITED
IRON WORKS, INC.

General Office
KANSAS CITY, MO.

Sales Offices:

TULSA, OKLA.
114 N. ROSEDALE

"UNITED IRON WORKS INC. FOR SERVICE"

DALLAS, TEXAS
MAGNOLIA BLDG.

STANDARD SIZES IN STOCK FOR PROMPT SHIPMENT!

TRIMO

TRIMO Leads
Where the Work is Hardest

Out on the pipe lines where a pipe wrench gets the hardest of use—TRIMO finds its greatest demand.

TRIMO popularity in the oil fields is due to long wear and the ability to stand up under very heavy work. All steel construction and replaceable parts put a TRIMO at the top in the oil fields.

TRIMO

TRIMO Giant Chain Pipe Wrench has never met its match for sheer brute strength. Especially in trench work is this giant tool appreciated.

TRIMONT MFG. COMPANY
ROXBURY (BOSTON), MASS.

America's Leading Wrench Makers for Nearly Forty Years

Gulf Refining Company

OKLAHOMA — TEXAS — LOUISIANA

Refiners of

PETROLEUM

GASOLINE
REFINED OIL
NAPHTHA
GAS OILS
PARAFFINE WAX
PETROLEUM COKE
FUEL OIL
LUBRICATING OILS
CYLINDER
ENGINE
CORDAGE

Red and Pale Paraffine Oils

General Sales Offices: PITTSBURGH, PA.

District Sales Offices:

NEW YORK, HOUSTON, ATLANTA, BOSTON, NEW ORLEANS, PHILADELPHIA, LOUISVILLE

OCEAN TERMINALS

Boston (Beverly), Mass.
Providence, R. I.
New York Harbor (Bayonne, N. J.)
Jacksonville, Fla.
Port Tampa, Fla.
Mobile (Magazine Point, Ala.)
Philadelphia (Girard Point, Pa.)
Charleston, S. C.
Savannah, Ga.
New Orleans (Gretna, La.)
Port Arthur, Texas
Galveston, Texas

Electric Steel Furnace at Reading Plant

Steel castings of higher than average strength are the product of artisans — men with many years of research and *practical foundry experience*. Of the many factors which influence the quality of steel castings, proper control of pouring temperature is of great importance. Control of pouring temperature has much to do with the elimination of porosity, shrinkage cracks and shrinkage strains.

Sound steel castings are the first requirement for *dependable* valves and fittings. Reading Cast Steel Valves and Fittings have physical characteristics far beyond actual requirements. This is a basic reason for choosing READING.

READING

ELECTRIC CAST STEEL VALVES *and* FITTINGS

READING STEEL CASTING COMPANY, Inc.

An Associate Company of the
American Chain Company, Inc.
BRIDGEPORT, CONNECTICUT

Stocked by Reading Steel Casting Co.
at Tulsa, Houston and San Francisco
Grinnell Company of the Pacific, Los Angeles

H.P.M. Drop Forged Steel Valves and Fittings are nationally distributed by the Reading Steel Casting Company, Inc.

READING *for steel*
PRATT & CADY *for iron and bronze*
specializing for quality valves and fittings
"There can be no compromise with safety"

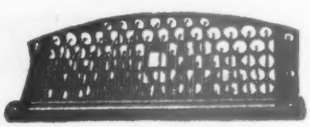
First with the Best in Recirculation!

A High-Temperature FAN of Advanced Design

Embodying These Features:

All bearings outside of fan housing . . . Full water cooled shaft . . . Eliminates overhanging wheel . . . Sturdily constructed of high temperature, non-corrosive metal . . . All moving parts readily accessible . . . New peaks in capacities and temperatures of gases handled . . . Minimum Power Cost.

Direct reference as to the economies possible with the Lientz Recirculating System will be given upon request.



THE LIENTZ
Gas Burner
is applicable to all gas burning requirements. Efficiency is assured.

B. P. Lientz & Company

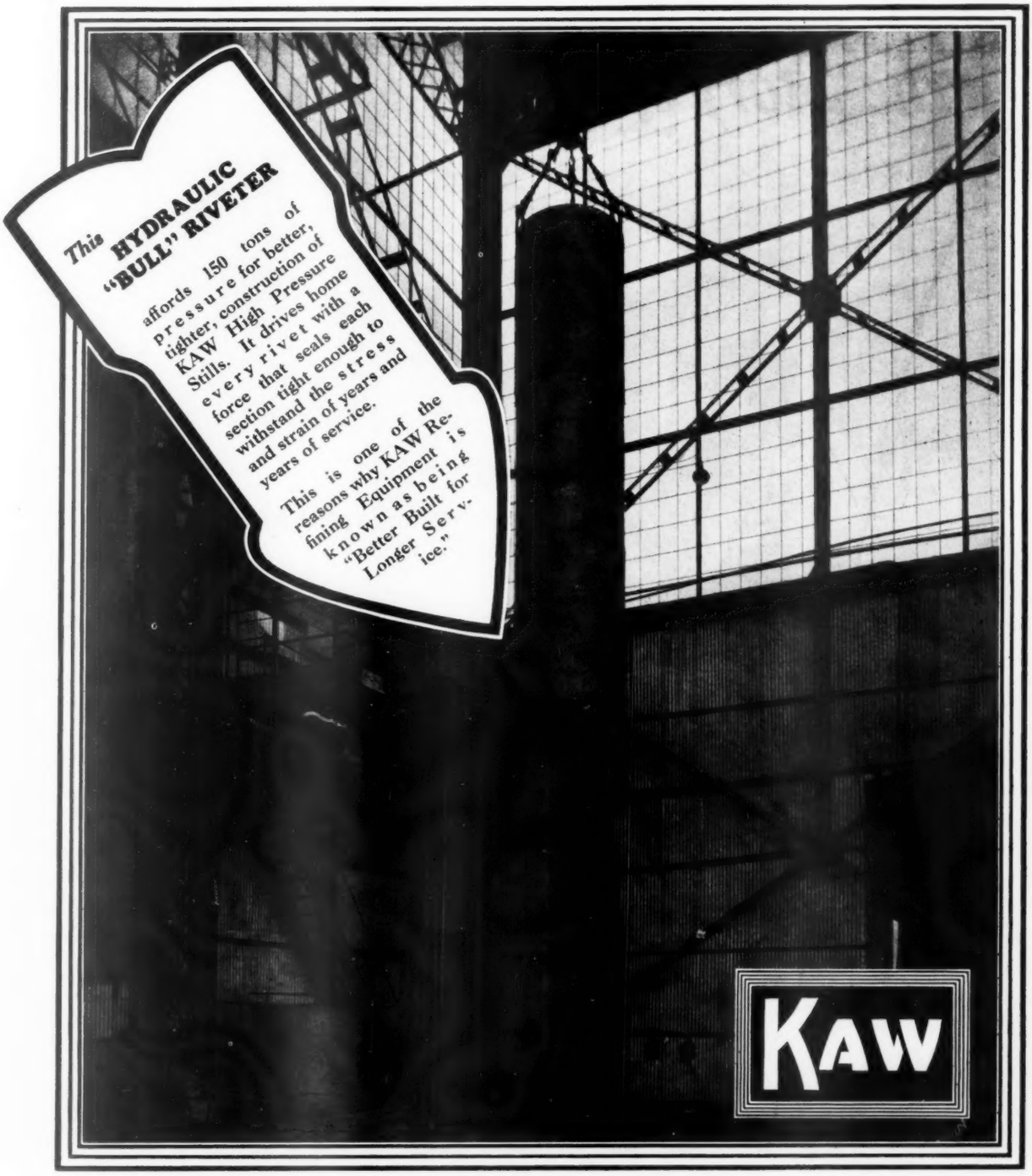
ENGINEERS & MANUFACTURERS

KANSAS CITY, MO.

LOS ANGELES NEW YORK

Manufacturers of the Lientz Recirculating System, Lientz Oil Burners, Lientz Gas Burners, American Oil and Gas Furnaces, and Lientz Fuel Oil Pump Sets.

The LIENTZ RECIRCULATING SYSTEM

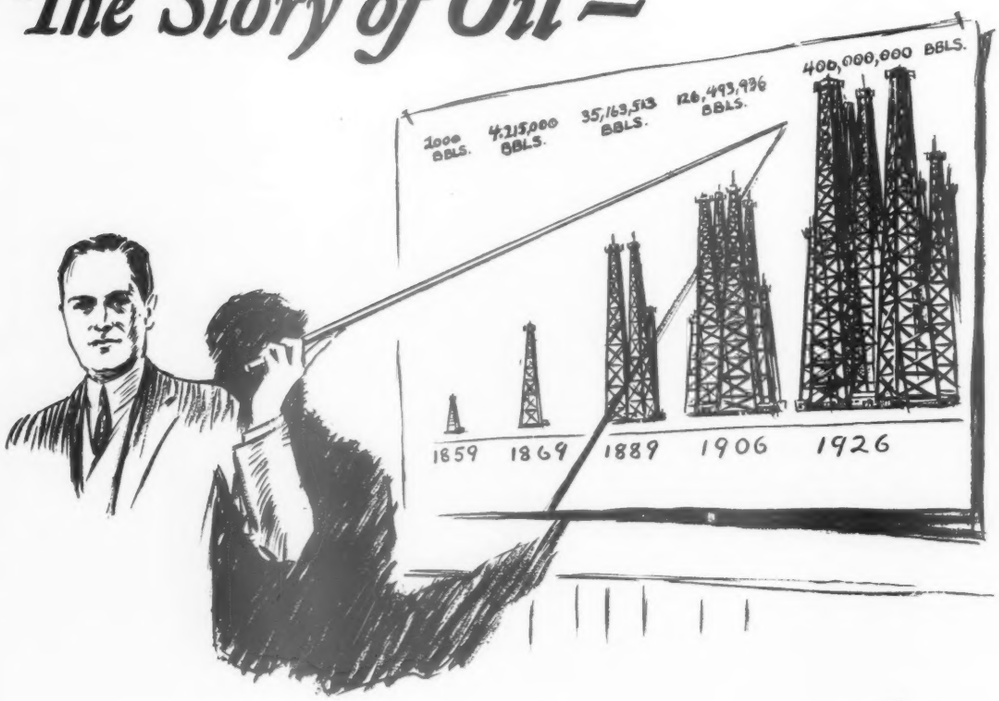

This HYDRAULIC "BULL" RIVETER affords 150 tons of pressure for better, tighter, construction of KAW High Pressure Stills. It drives home every rivet with a force that seals each section tight enough to withstand the stress and strain of years and years of service.
This is one of the reasons why KAW Refining Equipment is known as being "Better Built for Longer Service."
KAW

Reliable refinery equipment can only be produced with reliable machinery. That's why the KAW plant is continually adding the newest and best in modern still construction machinery. Depend on KAW for refinery equipment that is "Better Built for Longer Service." Write, wire or phone for prices.

KAW STEEL CONSTRUCTION CO.

General Office and Plant: 1st and Walker Ave. Kansas City, Kans.

The Story of Oil—



is men and tools

Men, who have the pioneering spirit and the adventurous minds of the soldiers of fortune are to be found in the oil country.

Good tools are necessary for these adventurous souls, whose watchword is speed without delay. The increase in production of petroleum has been made possible through science and engineering. The crude tools used by the pioneers in this industry have been superceded by those developed by engineering and metallurgical brains.

ASCO STEEL for oil well tools was developed only after careful study of the needs of the Petroleum Industry. Specify oil well tools made of ASCO STEEL in order to insure efficient drilling without costly fishing delays.

"A Story of Steel and Oil" is a historical sketch of the Petroleum Industry. Write for your copy today.

ASCO
STEEL
STANDS SUPREME

THE ANDREWS STEEL CO.
NEWPORT KENTUCKY

502 Cosden Building
TULSA, OKLAHOMA

541 McCormick Building
CHICAGO, ILLINOIS

Accuracy— Concentrated

COMING from many sources, going to many places, to do many things,—Gas can be exactly tabulated by Metric orifice Meters, grouped side by side, for convenient readings by one person. In an installation such as this, all charts can be changed and the necessary attention given in a very short time. Such a concentration of accurate measurement pays daily dividends in the exactness of the records made, and in the little effort required to secure and maintain those records.

METRIC orifice METERS

WESCOTT & GREIS, INC.
Sales Service
Dallas Tulsa Los Angeles

METRIC METAL WORKS
of the American Meter Company-Inc.
ERIE · PENNSYLVANIA · U·S·A·

FRICK REID SERVICE SUPPLY COMPANY

Axelson Machine Co.
Sucker Rods, Pull Rods, Plunger Working Barrels (Pumps, Etc.)

Beaumont Iron Works Co.
Dreadnaught Rotary Equipment, Water-Cooled Draw Works, Pumping Hoists, Traveling Blocks, Etc.

Carbic Manufacturing Co.
Acetylene Gas Generators and Welding Equipment

Donovan Boiler Works
Oil Country Boilers and Tanks

Frick-Reid Service Belting
Rubber Covered and Friction Surface

Jensen Bros. Mfg. Co.
Pumping Jacks

National Transit Pump and Machine Co.
Power and Steam Pumps

J. P. Ratigan
Grips, Clamps, Beam Hangers

Joseph Reid Gas Engine Co.
Gas and Oil Engines, two and four-cycle, Band Wheel and Direct Drive Pumping Powers

Rossendale-Reddaway Co.
"Camel Hair" Belting, Belt Clamps

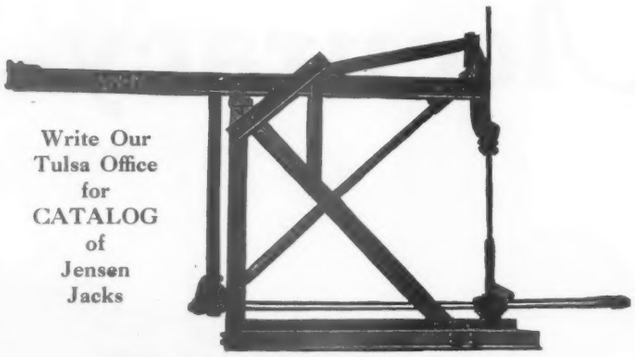
Whitlock Cordage Co.
Manila Cordage, Including Frick-Reid Manila Bull Ropes —same quality for ten years.

Lapweld and Seamless Tubular Goods

Walworth Company
Valves, Fittings and Tools for Steam, Water, Gas, Oil and Air.

Engineering Crews
For the installation of Pumping Powers and related equipment.

Write Our Tulsa Office for CATALOG of Jensen Jacks



Jensen
Straight Lift Jacks

—have such a smooth, easy stroke that other equipment above and below ground is immensely benefited. Wells that have always been trouble makers settle down to business when Jensen Jacks are installed. There is a Jensen Jack exactly suited to your wells and you should try it. The cost will be less than you think, for Jensen Jacks are cheaper in the beginning as well as the end. Inquire at your Frick-Reid Store or write our Tulsa office.

FRICK REID SUPPLY COMPANY

Tulsa, Okla. Pittsburgh, Pa.

West of the Mississippi, Stores Everywhere
East of the Mississippi, The Frick & Lindsay Co.

Double Strength for the Emergency

When a valve wears an armor of *forged* steel it will even stop a hellish wildcat bent on clawing its way to freedom. High pressures of the worst sort hold no terrors for Darling Forged Steel Gate Valves!

Made in 1500 and 3000 pound working pressures and furnished in Inside Screw, Stationary Stem Type in Screwed Ends, Flanged Ends and Flanged Ends with Companion Flanges bolted on.

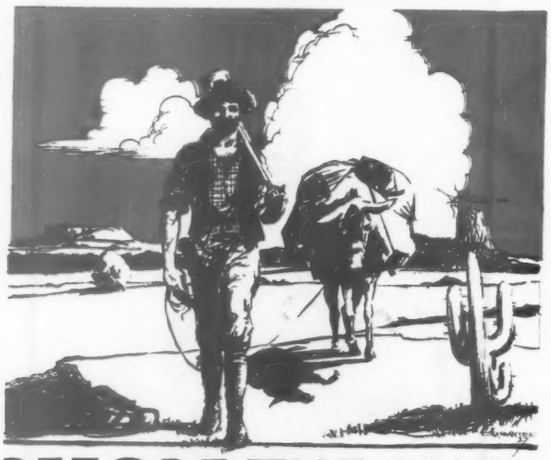
Darling Valve & Manufacturing Company
Williamsport, Pa.

New York Chicago Oklahoma City Houston

Mid-Continent Distributors:
Frick-Reid Supply Co. Atlas Supply Co.
International Supply Co. Petroleum Supply Co.

California Distributor:
Petroleum Equipment Company, Los Angeles

DARLING GATE VALVES



BEFORE THE RUSH

Before the rush the prospector must blaze the path—his the hazard—his the glory.

Prospectors in the field of Natural Gasoline—pioneers of a great industry—in the vanguard of those who ventured into the maze of experiment—was Chestnut and Smith Corporation.

CHESTNUT & SMITH
CORPORATION
Tulsa, Oklahoma
Cable Address: Naturaline

NATURALINE
A SUPER AVIATION MOTOR FUEL

It's a Wilson

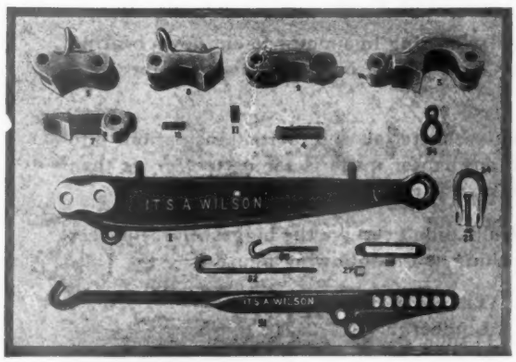
Wilson TONGS

Wilson Rotary Tong

As simple in design as they are sturdy!

The fewest parts; all standardized so that any part can be replaced on derrick floor; no awkward contrivances. The design has been constantly perfected over a period of years. It's your choice when you seek the best.

Carried in stock by your Supply Companies.



Wilson Oil Tools Corp.

DISTRIBUTORS FOR

Wilson & Willard Mfg. Co.

Factory and Distributor's Office It's a Wilson 2301 East Vernon Ave. Los Angeles, Calif.

SALES REPRESENTATIVES
Tulsa, Okla.
409 Atlas Life Bldg.
Houston, Tex.
219 Post Dispatch Bldg.

SALES REPRESENTATIVES
Abilene, Tex.
865 Grape St.
Fort Worth, Tex.
812 Dan Waggoner Bldg.

The Lad's there with fight and flight

"Here, Lad—

the facts and figures on last year's motor production ought to settle our disagreement about what make of motors we will buy. The Big Company I insist on buying motors from leads—and the 'Linc-Weld' motor you're boosting is below it in sales volume. Money talks and your people didn't get it. Mine did."

"Yes, Pop—

figures prove you're right but *facts* tell a different story.

The majority in any line doesn't prove whether it's the right auto, the right alderman or the right motor.

Mob thinking isn't thinking at all.

Making a double-size bearing in a motor to cut down bearing troubles, as in the 'Linc-Weld,' is an improvement for those who think.

Putting more active material and better insulation into 'Linc-Weld' than any motor made is far better *for us* than the surface gloss that attracts the majority.

And that 'Linc-Weld' didn't receive the biggest purse proves *exactly* the same thing as the following figures:

Tunney got	$1,000,000.
Lindbergh	25,000

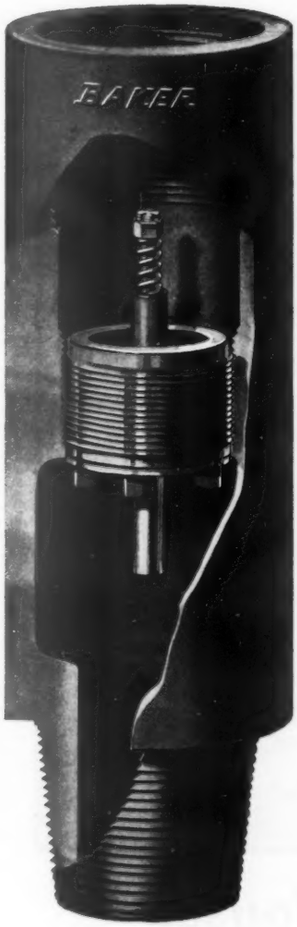
You can't prove the value of a job by the gate receipts."

The Lincoln Electric Co., Dept. 26-2, Cleveland, Ohio

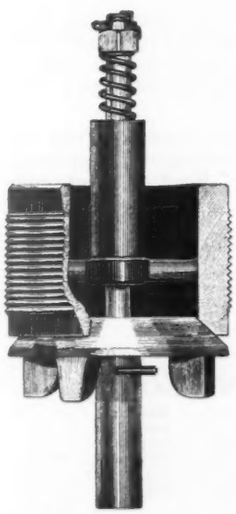
"Linc-Weld"

LINCOLN MOTOR

M-8



The Baker Drill Pipe Float



Patented Valve Assembly

Insures Perfect Safety in Deep or Shallow Drilling at all times

BAKER

DRILL PIPE FLOAT

and

PATENTED VALVE ASSEMBLY

The Baker Drill Pipe Float was primarily designed to promote safety in deep well drilling. How well it has succeeded is reflected in its extensive use throughout the oil drilling universe.

The design insures perfect and uniform circulation at all times and prevents accidents from parted or falling pipe. The ultimate saving on wire lines, brake bands and equipment more than recompenses for the installation of the Baker Drill Pipe Float, and of course Baker Quality, Baker Performance and Baker Superiority prevail as in other Baker equipment.

Baker Valve Assembly

The Baker Valve Assembly used in the Baker Drill Pipe Float, is our exclusive design and is fully covered by patents. Construction is of the best material obtainable for the purpose in order to withstand the maximum amount of service. The small valve stem guide in the valve cage eliminates the possibility of anything clinging to it, while an enlarged and unobstructed opening beneath affords free passage for the circulating fluid. The valve assembly is readily accessible for inspection and can be replaced at a nominal cost.

Always specify and insist on the Baker Valve Assembly for renewals. The reason is apparent. There is no substitute for Baker Supremacy in float valve assemblies.

Request literature and full information.

BAKER CASING SHOE COMPANY

COALINGA, CALIFORNIA — TAFT, CALIFORNIA

Box L, Huntington Park, California

Export Sales Office
25 Broadway, New York City

Mid-Continent Representatives:
B & A SPECIALTY COMPANY

220 E. Brady St., TULSA, OKLA.

708 Keystone Bldg., HOUSTON, TEXAS

IDECO

Field Boiler Houses

A Prominent Division Superintendent in Texas Recently Stated—

"TO drill a 4000′ well with two boilers an average of 40 bbls. of fuel oil is used a day, costing $1.25 per bbl. Since 60 days are generally required per well the fuel cost is about $3000.00.

Housing the boilers will save 15% of fuel in summer and 20% in a southern winter. Fifteen per cent of the fuel cost is $450.00. Thus it is evident that, counting erection and purchase cost, a boiler house will pay for itself on two wells and then has a long useful money saving career ahead."

Ideco Buildings are made for every oil field purpose. They are hot-dip galvanized—both frame and sheeting—a protection against rust that insures exceptional life. Easy to erect, convenient and portable.

Write nearest branch for catalogue.

INTERNATIONAL STEEL IDECO DERRICKS (GALVANIZED)

THE INTERNATIONAL DERRICK & EQUIPMENT CO.

The largest company devoted exclusively to the manufacture of steel (galvanized) equipment for the oil, gas and artesian industries

COLUMBUS, OHIO TORRANCE, CAL.

Dallas, Houston, Mexia, Wichita Falls, Pyote, Amarillo, Borger, Corsicana, Pampa, Panhandle, Shreveport, Oil City, Smackover

Eldorado, Tulsa, Tonkawa, Drumright, Okemah, Seminole, Wewoka, Denver, Casper, Torrance, Los Angeles, Taft

California Representative
National Supply Co. of California

Export Representation: 74 Trinity Place, New York City Columbus, Ohio Los Angeles *and* San Francisco, Cal. 511

The ADVERTISERS' INDEX

A

Acme Fishing Tool Co.
Aetna Ball Bearing Mfg. Co. 109
Ajax Iron Works
Ajax Rope Co.
Alfit Packing Co., Inc. 114
Allegheny Steel Co.
Allis-Chalmers Mfg. Co.
Alloys Company, The
Aluminum Co. of America
Amarillo Abstract Co. 159
American Asphalt Paint Co.
American Cable Co., Inc.
American Car & Foundry Co.
American Hammered Piston Ring Co.
American Iron & Machine Works, Inc.
American-La France & Foamite Corp.
American Manganese Steel Co. 107
American Radiator Co.
American Roller Bearing Co.
American Rolling Mill Co.
American Schaeffer & Budenberg Corp.
American Sheet & Tin Plate Co.
American Spiral Pipe Works
American Steam Pump Co.
American Telephone & Telegraph Co.
American Well Works
Andrews Steel Co. 16
Arco Company, The
Armstrong Bros. Tool Co. 159
Athey Truss Wheel Co. 108
Atmore, Robert N., Co. 94
Austin Co.
Austin Machinery Corp.
Axelson Machine Co. ....Back Cover

B

B. & A. Specialty Co.
Baash-Ross Tool Co.
Babcock & Wilcox Tube Co., The
Badger, E. B., & Sons, Co.
Baker Casing Shoe Co. 23
Baker-Lockwood Mfg. Co.
Baldwin Chain & Mfg. Co.
Banner Rock Products Co.
Barber-Greene Co.
Barco Manufacturing Co.
Barnickel, Wm. S., & Co. 144
Barnsdall Refineries, Inc.
Bartlesville Supply Co.
Beaumont Iron Works Co.
Benjamin Electric Mfg. Co.
Bessemer Gas Engine Co. 54
Bethlehem Steel Co. 76
Biggs Boiler Works Co.
Bignall & Keeler Machine Works
Blaw-Knox Co.
Bovaird Supply Co., The
Braden Steel & Winch Co.
Braun, C. F., & Co. 98
Bristol Co. 111
Broderick & Bascom Rope Co.
Brooks Engineering Corp.
Brown, Arthur C. 159
Brown Instrument Co.
Brownell Co.
Buckeye Traction Ditcher Co.
Buda Co.
Buffalo Bolt Co.
Buffalo Gasolene Motor Co.
Burns Tool Co.
Burt Mfg. Co.
Butler Mfg. Co.
Byers, A. M., Co. 104
Byron Jackson Pump Mfg. Co.

C

California Pipe Line Machine Co.
Cameron Iron Works
Cameron Tool & Supply Co., The
Campbell, J. A.
Canadian Pacific Railway Co.
Carbondale Machine Co. 150
Carey, Phillip Co., The 6
Caterpillar Tractor Co.
Celite Products Co. 82
Central Alloy Steel Corp. 9
Central Tube Co. 149
Chain Belt Co.
Champion Machine & Forging Co. 113
Chaplin-Fulton Mfg. Co. 149
Chapman Valve Mfg. Co.
Chestnut & Smith Corp. 20
Chicago Bridge & Iron Works 52
Chicago Pneumatic Tool Co.
Chisholm-Moore Mfg. Co.
Clark Bros. Co. 77
Classified Wants 116-117
Climax Engineering Co. 68
Columbian Rope Co.
Columbus Forge & Iron Co.
Continental Motors Corp.
Continental Supply Co., The 63
Cooke Seal Ring
Cooper, C. & G., Co.
Crane Co.
Crane Packing Co.
Crescent Belt Fastener Co.

D

D. & B. Pump & Supply Co. 112
Darling Valve & Mfg. Co. 19
Dart, E. M., Mfg. Co. 151
Davis, G. M., Regulator Co. 97
Dayton Pipe Coupling Co.
Dearborn Chemical Co.
De La Vergne Machine Co.
Delta Electric Co.
DeSoto Fdy. & Mch. Co., Ltd.

D

Detex Watchclock Corp. 150
Detroit Graphite Co.
Diamond Drill Carbon Co. 159
Dixon, Joseph, Crucible Co.
Donovan Boiler Works, Inc. 78
Dresser, S. R., Mfg. Co. 37
Dunn Mfg. Co. 41
DuPont de Nemours & Co., E. I., Inc.

E

Eagle-Picher Lead Co.
Eastern Torpedo Co.
Economy Pump & Oil Tool Co., The
Edward Valve & Mfg. Co.
Elliott Core Drilling Co.
Empire Oil & Refining Co.
Emsco Derrick & Equipment Co.
Ethyl Gasoline Corp.
Exchange National Bank

F

Fairbanks-Morse & Co.
Federal Supply Co.
Fenwick-Reddaway Mfg. Co. 114
Fisher Governor Co. 75
Flexible Steel Lacing Co.
Fluor Construction Co. 85
Ford Chain Block Co.
Foster Wheeler Corp.
Foxboro Co., Inc., The
Franklin Valveless Engine Co. 58-59
Frick-Reid Supply Co. 18

G

Gardner-Denver Co.
Garlock Packing Co. 63
Gasoline Recovery Corp.
Gaso Pump & Burner Mfg. Co. ....Inside Back Cover
General American Tank Car Corp.
General Asbestos & Rubber Co.
General Electric Co. 96
Gilbert & Barker Mfg. Co.
Goodrich, B. F., Rubber Co. ....Inside Front Cover
Goodyear Tire & Rubber Co.
Gott, H. P., Mfg. Co.
Goulds Pumps, Inc. 150
Graham Brothers
Graver Corp.
Gray Processes Corp.
Greenspon's, Joseph, Sons, Iron & Steel Co. 111
Griscom-Russell Co. 141
Guiberson Corp. 83
Gulf Refining Co. 12

H

Halliburton, Erle P., Co.
Halliburton Oil Well Cementing Co. 61
Harrisburg Pipe & Pipe Bending Co.
Haynes Stellite Co.
Hazard Wire Rope Co. 103
Heat Transfer Products, Inc.
Heppenstall Forge & Knife Co.
Hercules Motors Corp.
Hercules Supply Co.
Hercules Tool Co.
Heydrick Mapping Co. 159
Hill, Hubbell & Co. 2
Hills-McCanna Co.
Hinderliter Tool Co.
Homestead Valve Mfg. Co.
Hope Engineering & Supply Co. 48
Hopkins, Edwin B. 159
Hough, Charles N., Mfg. Co. 151
Hoyt Metal Co.
Hughes Tool Co. 73
Humble Oil & Refining Co.
Hunt, Robert W., Co.
Hyatt Roller Bearing Co.

I

Imperial Belting Co.
Imperial Royalties Co. 159
Indiana Truck Corp.
Ingersoll-Rand Co.
International Creosoting & Construction Co.
International Derrick & Equip. Co. 24
International Harvester Co. of America
International Nickel Co.
International Supply Co.

J

Jackson Engineering & Equipment Co.... 85
Jarecki Mfg. Co.
Jefferson Union Co. 84
Jenkins Bros. 79
Jensen Brothers Mfg. Co.
Johns-Manville Corp.
Jones, S. M., Co. 151

K

Kansas City Hay Press Co.
Kaw Steel Construction Co. 15
Kellogg, M. W., Co. 149
Kelley, Kork
Kelly, John Eoghan
Kennedy Valve Mfg. Co.
Kennedye-Plumb Corp.
Kerotest Mfg. Co.
K-W Ignition Corp., The

L

Landis Machine Co. 3
Larkin & Co.
Layne & Bowler Co. 88
Leader Iron Works
Leidecker Tool Co.
Leschen, A., & Sons, Rope Co.
Lientz, B. P., & Co. 14
Lincoln Electric Co. 22
Linde Air Products Co.
Link-Belt Co.
Long Bell Lumber Co., The 147
Longyear, E. J., Co.
Lorraine Corp., The 65
Lucey Mfg. Corp. 143
Ludlow Valve Mfg. Co.
Lufkin Fdy. & Machine Co.
Lufkin Rule Co. 159
Lunkenheimer Co. 101

Mc

McCord Radiator & Mfg. Co. 5
McEvoy, J. H., & Co.
McGregor Working Barrel Co.
McIntosh & Seymour Corp.
McKee, Arthur G., & Co.

M

M. & M. Mfg. Co., The
Macwhyte Co.
Madison-Kipp Corp.
Magnolia Petroleum Co.
Maloney Tank Mfg. Co. ....Front Cover
Marion Machine Fdy. & Supply Co.
Marsh Gauge Pole Co.
Mason Regulator Co.
Mathieson Alkali Works, Inc.
Merco Nordstrom Valve Co.
Merrill Company, The
Metric Metal Works 17
Midwest Piping & Supply Co.
Miller Improved Gas Engine Co.
Mission Sales Co.
Moon Mfg. Co.
Moore, Lee C., & Co., Inc. 93
Moore Drop Forging Co.
Munn & Co. 159
Myers, F. E., & Bro., Co. 148

N

National Carbon Co., Inc.
National Petroleum Engineering Co. 149
National Supply Co. 71
National Transit Pump & Machine Co.... 45
National Tube Co. 64
Neilan, Shumacher & Co.
Newton Process Mfg. Co. 35
New York Rubber Corp. 102
Norris Brothers, Inc.
Norris, W. C.
North American Car Corp.
Northern Pump Co.
Nova Engine Co.
Nuttall, R. D., Co.
Nye Tool & Machine Works 7

O

Oakite Products, Inc. 109
O'Brien Steel Construction Co.
Ohio Injector Co., The
Oil City Iron Works, Inc.
Oil Conservation Engineering Co.
Oil Country Specialties Mfg. Co.
Oil Insurance Association
Oil Well Improvements Co., The
Oil Well Supply Co. 80-81
Oklahoma Contracting Co.
Oklahoma Gas & Electric Co.
Oklahoma Portland Cement Co.
Oxweld-Acetylene Co.

P

Page, H. W., Inc.
Page Steel & Wire Co. 89
Paige & Jones Chemical Co., Inc. 139
Parkersburg Machine Co. 152
Parkersburg Rig & Reel Co. 67
Parsons Co., The
Patrick, R. S. 113
Pattin Brothers Co.
Penberthy Injector Co. 100
Petroleum Appliance Co.
Petroleum Iron Works Co.
Pforzheimer, Carl H., & Co.
Philadelphia Gear Works
Phillips Petroleum Co.
Pittsburgh-Des Moines Steel Co.
Pittsburgh Equitable Meter Co. 151
Pittsburgh Steel Products Co
Pomona Manufacturing Co.
Powell, William, Co.
Power Mfg. Co., The
Power Piping Co. 106
Prescott & Co., The
Prest-O-Lite Co., Inc., The
Pure Oil Co. 4
Pyle National Co. 102

Q

Quaker City Rubber Co.

R

Reading Iron Co.
Reading Steel Casting Co., Inc. 13
Regan Forge & Engineering Co.
Reid, Joseph, Gas Engine Co.
Reo Motor Car Co.
Republic Iron & Steel Co.
Republic Supply Co. 8
R-F Electrical Mfg. Co.
Ridge Tool Co.
Riter-Conley Co. 159
Robinson Orifice Fitting Co. 106
Rock Island Plow Co.
Roots, P. H. & F. M. Co.
Ross-Meehan Foundries 159
Ryerson, Joseph T., & Sons, Inc. 150

S

Safety Gas Main Stopper Co. 152
Safety Pulling Machine Co. 98
Shafter, J. E., Co.
Shaffer Tool Works
Shaw, S. F.
Sheffield Steel Corp.
Sinclair Refining Co. 127
Sivyer Steel Casting Co.
Skelly Oil Co.
Skinner, M. B., Co.
Smith, A. O., Corp. 91-137
Smith Separator Co. 74-75
Smooth-On Mfg. Co.
Sonner, P. J., Gas Burner Co.
Sootless Spark Plug Co.
South Chester Tube Co.
Southern Cornice Works 159
Southwestern Engineering Corp. 105
Spang & Co.
Spang, Chalfant & Co., Inc. 89
Standard Seamless Tube Co.
Standard Steel Works
Stanley Belting Corp.
Star Drilling Machine Co.
Staytite Co., The
Stockman Pipe & Fitting Co.
Stork Engineering Co.
Strom Steel Ball Co.
Sullivan Co., The 86
Sullivan Machinery Co.
Sun Shipbuilding & Dry Dock Co.
Swartwout Co., The
Sweet, Wm. J., Foundry Co.

T

Taylor Instrument Companies 147
Templeton, Kenley & Co., Ltd. 152
Texas Company, The
Texas Creosoting Co.
Texas Pacific Coal & Oil Co.
Timken Roller Bearing Co. 67
Titusville Forge Co.
Titusville Iron Works
Toledo Pipe Threading Machine Co. 101
Traction Machine Co., The
Trimont Mfg. Co. 11
Trumble Gas Trap Co. 148
Tulsa Pipe & Supply Co., Inc.
Tulsa Sheet Metal Co.
Twin Disc Clutch Co.

U

United Air Cleaner Co.
United Iron Works, Inc. 10
United States Industrial Diamond Corp.
Universal Oil Products Co. 43

V

Victaulic Co. of America
Victor Balata & Textile Belting Co.
Vogt, Henry, Machine Co. 110

W

Wagner Electric Corp.
Wailes Dove-Hermiston Corp.
Walworth Co. 1
Warren Petroleum Co.
Washburn, Chester W. 159
Waukesha Motor Co.
Westcott & Gress
Westinghouse Electric & Mfg. Co.
West Texas Utilities Co.
Wheelton & Townsend, Inc.
Wheeling Steel Corp. 95
Wico Electric Co. 115
Widdell Engineering Co.
Williams, J. H., & Co.
Williamsport Wire Rope Co. 50
Williams Tool Corp. 135
Wilson Oil Tools Corp. 21
Wilson-Snyder Mfg. Co.
Wilson Welder & Metal Co., Inc. 47
Witte Engine Works
Worthington Pump & Machinery Corp...
Wright Mfg. Co.

Y

Yale & Towne Mfg. Co.
Young Engine Corp.

Z

Zero Hour Torpedo Co.
Zwetsch Heinzelmann & Co. 159

The OIL and GAS JOURNAL

PRODUCING REFINING MARKETING

VOL. 26. NO. 39 TULSA, OKLAHOMA, FEBRUARY 16, 1928

Copyright, 1928, by The Petroleum Publishing Co

TABLE OF CONTENTS

SPECIAL ARTICLES

Venezuela Big Factor on East Coast 27
By Andrew M. Rowley
South American crude being delivered to Atlantic Coast refineries at 70 cents a barrel. "Sweet oils" in demand.

Steady Improvement at Refineries 29
By C. O. Willson
Survey shows many changes under way looking to greater efficiency.

President Teagle on Committee of Nine Report 29

Texas Panhandle Magnetic Anomalies 30
By Carl C. Adams
Actual survey across territory where subsurface structure was known.

Shooter's Life Loses Old-Time Thrills 31
By Thomas F. Smiley
Transportation so safeguarded nitro truck may upset.

Growth of Refining Abroad is Rapid 32
By Special Correspondent
But foreign consumption steadily increasing.

Specialists in Industry (Editorial) 34

Big Production May Be From Viola Lime 36
By J. L. Dwyer
Producer in Pearson Switch area of Oklahoma attracts wide interest.

Government Preliminary Report 39

Field Problems and Their Solution 66
Edited by Thomas F. Smiley

Progress of Drilling in Irak 70
By Special Correspondent

Analyses of Crude and Refined Products ..... Begins 142

FIELD OPERATIONS

Texas Panhandle and North Texas 37-94
By James H. Dameron

Late Fields 38

West Texas 39-40-94
By James H. Dameron

Oklahoma 42
By J. L. Dwyer

Kansas 44
By J. L. Dwyer

North Louisiana-Arkansas 46
By D. H. Bancroft

Southwest Texas 49
By B. D. Stevenson

Gulf Coast 51
By Neil Williams

Rocky Mountain Area 53
By Tolbert R. Ingram

Muskegon, Michigan 53
By Special Correspondent

Canada 55
By Victor Lauriston

California 56
By L. P. Stockman

Eastern Fields 60
By D. S. Wakenight

Kentucky-Tennessee 62
By Whit

Central West 62
By Whit

REFINING AND MARKETING NEWS

Gasoline Market Stronger in Group 3 28
Oklahoma refiners advance prices as main consuming season approaches. Kerosenes and distillates slow. Naturals higher.
By W. T. Ziegenhain

Market Improving in Chicago Area 118
By J. B. Waldo

Market Tone in East Heavy 119
By N. O. Fanning

Effect of Gas Lift on Oil and Gas 120
By Roy O. Neal
Gasoline dependent on partial pressures of individual hydrocarbons.

Brief Items for Petroleum Refiners 122

Natural Gasoline Manufacture 123

Refinery and Crude Prices 124-125

Tank Wagon Quotations 126

Technical Questions Answered 136
By Dr. C. K. Francis

Of Interest to Sales Departments 138

Short Talks on Specifications 138
By W. T. Ziegenhain

Products Obtained From Oils Increasing 138
By Dr. C. K. Francis

Knocking Characteristics of Gasolines 140
By H. K. Cummings
Bureau of Standards shows considerable variation in samples.

ARTICLES OF GENERAL INTEREST

The Advertisers' Index 25

Men Known in Oildom and Personals 72

Oil Country Goods Demand Increases 89
By B. E. V. Luty

Natural Gas Developments 90

Equipment and Supplies 92

Classified Want Advertisements 116-117

Oil Securities Share Bearish Trend 128

Argentine Director Reports 146

Receipts of California Oils, 1927 146

Cementing Bottom Hole Water 148
By W. V. Vietti and W. A. Oberlin

Field Operations in All Fields in January 154

Crude Petroleum Statistics 160

BE A REGULAR READER

The OIL and GAS JOURNAL Tulsa, Okla.

You are hereby directed to mail The Oil and Gas Journal to me for.....year. Enclosed find remittance $.....

Classify my interests as checked by me.

.....Producing .....Refining
.....Equipment .....Marketing

Name .....
Address .....
City .....

$6 a Year
$3 6 Months

Refinery Section Starts on Page 118

Venezuela Big Factor on East Coast

Highest daily average estimated total production in 1927, week ended July 30, 2,587,105 bbls. Lowest in 1927, Jan. 22, 2,360,789 bbls.

South American Crude Being Delivered to Atlantic Coast Refineries at 70 Cents a Barrel. "Sweet Oils" in Demand

By Andrew M. Rowley

Highest daily average estimated light oil production in 1927, week ended July 30, 2,102,385 bbls. Lowest in 1927, Jan. 1, 1,790,729 bbls.

Venezuela is looming as a more important factor in the crude petroleum situation in the United States because of the low price at which production from that country is being delivered to Atlantic Coast refineries. Venezuela crude is being laid down on the East Coast at from 70 to 75 cents a barrel. That crude can be cracked, yielding a good quantity of gasoline or can be skimmed, with a fair yield of gasoline. While this low-priced crude cannot compare in quality with the production of the "sweet oil" fields of the Mid-Continent, it naturally will have quite an effect upon the general situation because of price and the fact it can be delivered quickly, the distance from Venezuela to Atlantic Coast refineries being less than from Gulf Coast ports.

Inland refiners, however, will continue to purchase crude with a high gasoline content and free from sulphur. Production of this grade of crude probably will continue to decline until early summer while consumption will register substantial gains before that time. This is the factor which forms the basis for belief the price schedule of high gravity sweet oils in the Mid-Continent area at least probably will be raised within the next 60 days.

It has been estimated refiners will have to run 942,000,000 barrels of crude to stills this year to meet gasoline requirements. Production at this time is running below that figure and it is felt as long as the total output of crude is maintained below the 2,400,000-barrel-a-day mark (see heavy line above total production line in graph below, the heavy lines marking 100,000-barrel intervals) conditions within the industry will be better than many had expected.

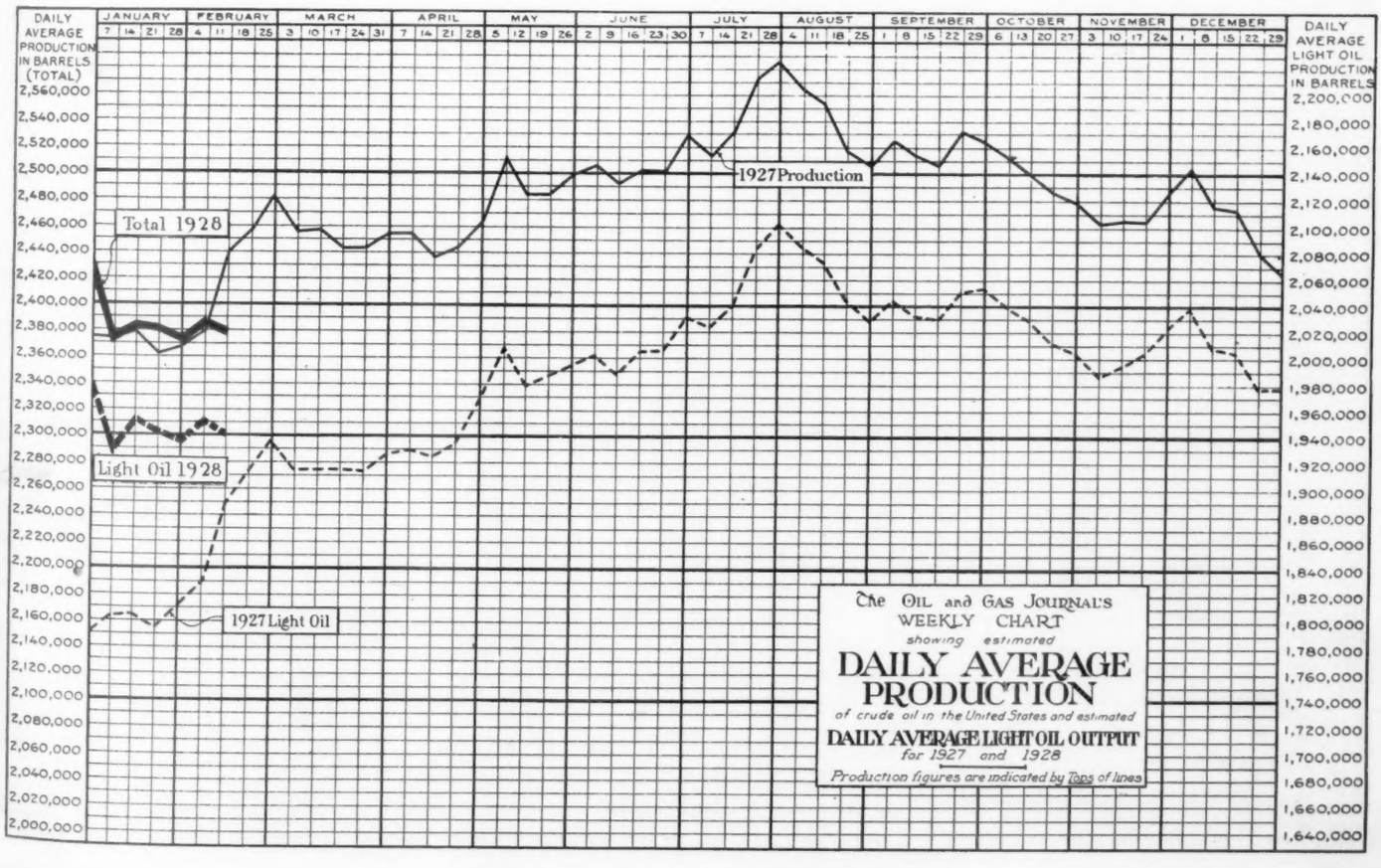
Production early this summer probably will exceed that figure. West Texas may be expected to register substantial gains as facilities are made available for handling the output while California will increase its production to some extent in the late spring. Oklahoma doubtless will show gains beginning about the first of June when drilling operations expected to start in the greater Seminole area after March 1, are completed.

PRODUCTION IN THE UNITED STATES

Estimated daily average production of light and heavy gravity oil in the United States for week ended February 11, and a comparison with the previous week follows:

	Feb. 11		Feb. 4	
	Light	Heavy	Light	Heavy
Oklahoma—				
Tonkawa	15,335	.....	15,380	.....
Burbank	42,265	.....	38,315	.....
Other Osage Fields	29,540	.....	29,585	.....
Cushing and Shamrock	20,965	.....	20,980	.....
Bristow and Eastern Bristow	24,530	.....	24,555	.....
Cromwell	10,390	.....	10,350	.....
Garber	9,915	.....	9,890	.....
Blackwell-Braman	8,745	.....	8,770	.....
Seminole	323,695	.....	324,710	.....
Wewoka	8,170	.....	8,535	.....
Northern Miscellaneous	116,695	.....	116,280	.....
Southern Fields	60,410	.....	60,360	.....
Total Oklahoma	670,655	.....	667,710	.....
North Louisiana	37,625	8,000	37,210	8,180
Arkansas	20,215	68,355	20,995	69,165
North Central Texas	125,663	.....	130,002	.....
West Texas	288,451	.....	288,837	.....
Texas Panhandle	79,915	.....	80,605	.....
East Central Texas	25,707	.....	25,858	.....
Kansas	109,760	.....	110,585	.....
Total Mid-Continent Area	1,357,991	76,355	1,361,802	77,345
Gulf Coast	.....	121,801	.....	117,561
Southwest Texas	.....	26,677	.....	26,614
Eastern	108,500	.....	110,000	.....
Rocky Mountain Area	74,331	.....	79,537	.....
California—				
Santa Fe Springs	38,500	.....	38,500	.....
Long Beach	118,000	.....	115,000	.....
Torrance	2,750	17,000	3,000	17,000
Huntington Beach	59,000	.....	59,500	.....
Dominguez	12,750	.....	13,000	.....
Rosecrans	7,750	.....	8,000	.....
Inglewood	19,250	12,000	19,250	12,000
Ventura Avenue	52,000	.....	53,000	.....
Seal Beach	40,500	.....	41,000	.....
Remainder of State	52,000	185,000	52,000	184,000
Total California	402,500	214,000	402,250	213,000
Total United States	1,943,322	438,833	1,953,589	434,520
Grand Total	2,382,155		2,388,109	

→ **Total Decrease, 5,954 Bbls.; Light Oil Decrease, 10,267 Bbls.** ←



Gasoline Market Stronger in Group 3

Oklahoma Refiners Advance Prices as Main Consuming Season Approaches. Kerosenes and Distillates Slow. Naturals Higher

By W. T. Ziegenhain

With practically all refiners holding to 6 cents as a minimum quotation for U. S. Motor gasoline there was a strong belief that Oklahoma (Group 3) gasoline prices were on a definite, slow, upward movement to continue for the next few weeks at least despite the scattered crude oil price reductions made during the week. While considerable quantities of gasoline are going to storage, this is more a matter of following out a prearranged program on the part of refiners to adequately supply their needs over the coming summer season rather than a weakness in the position of those following this system. The same strength was not apparent in the other light oils.

Natural gasolines were slightly higher in price, but there was plenty of material being offered. The better grades were favored in the trading and the C grade fell off slightly in price. Kerosene moved rather slowly and price concessions were being offered in a few cases showing the lack of confidence in the immediate strengthening of the market. On the other hand, the recent export shipments of kerosene so reduced stocks at several plants that further material declines are not contemplated.

Distillates showed a further weakening as several refiners were faced with going into the summer season with relatively large quantities of the material on hand. The moderate weather has been responsible for the lesser demand over the week and the season's shipments have not come up to expectations in many cases. Gas oils were unchanged with premiums being paid for the zero cold test, low flash material. The gradual strengthening of gasoline prices has lent strength to the gas oil market for its use as a charging stock to pressure stills.

Fuel oil displayed new strength and many refiners report their production is being shipped on sales already made, leaving no excess to be moved on the open market. While this applies in many cases, there is plenty of material in storage and conditions outside Oklahoma do not point to the probability that fuel prices will be materially advanced. The present strength is attributed to the fact that two large refiners outside the Oklahoma market who had been selling in the Group 3 marketing territory have temporarily withdrawn from the market.

REFINED MARKET BAROMETER

The refined oil market remained inactive in practically all sections with the Mid-Continent showing the strongest tendency to advance prices. Gasoline is being freely offered along the Atlantic Coast and in California with little thought of prices being advanced until the present low seasonal demand is passed. Natural gasolines were somewhat stronger in the Mid-Continent, but remained unchanged in California. Fuel oil continued plentiful at all points but was particularly weak in California where price concessions are offered by the smaller refineries. Fuel oil was strong in the Mid-Continent despite the generally depressing factors present outside the group. The lower posted prices on some of the heavier crudes did not seem to effect a reduction in fuel quotations except in Arkansas.

Mid-Continent—Gasolines continued stronger but with plenty of material available. Natural gasoline prices were generally higher but the demand only fair. Fuels advanced as several refiners withdrew from the spot market temporarily.

Atlantic Seaboard—The gasoline demand decreased as the weather turned colder. Exports have declined and there is plenty of material being offered. Refiners are attempting to view the future with more optimism but the upward trend will likely be very gradual. Bunker fuel continues weak.

Pennsylvania—A fair demand for the light oils is holding prices at last week's level, with an abundant supply available.

Gulf Coast—There were no major changes in the market and refiners are marking time until a better demand affords support for higher prices.

Chicago—A good demand for low cold test fuels featured the market as prices in general remained unchanged on the other products.

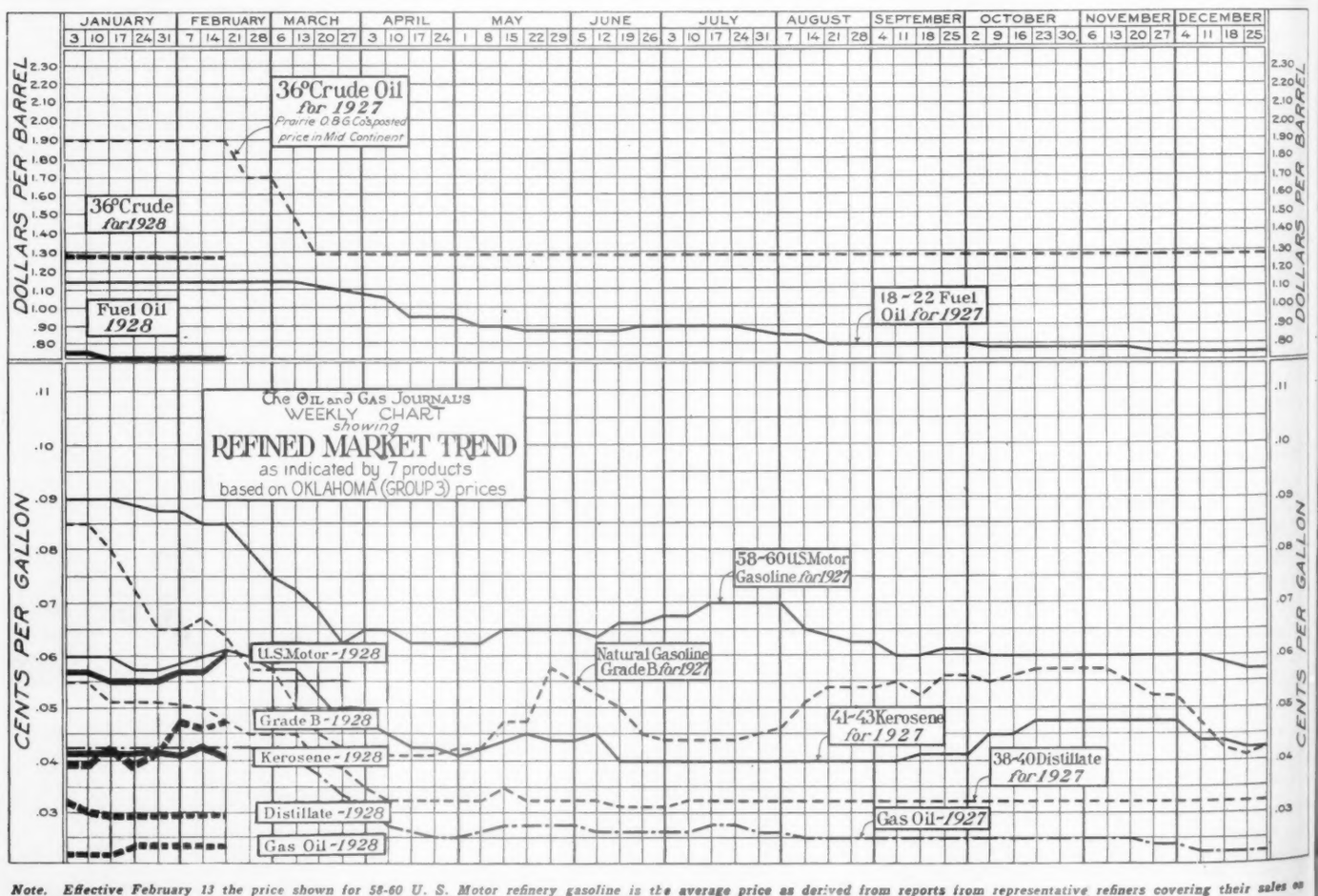
California—Lower retail prices on gasoline threaten the refinery market. Kerosene export inquiries have strengthened that market, but other oils have shown little change. Fuel oil continues plentiful as reports are current of concessions being given by small refiners.

Cold Test Fuels

Low cold test fuels, particularly the material having a cold test below 10 degrees Fahrenheit, sold at a good premium. Accompanying the cold test specification, refiners are receiving requests for fuels having a specified maximum viscosity. The low viscosity, heavy fuels also command premiums and the increased demand for these special fuels is tending to push prices in general, fractionally higher.

Lubricant sales were continuing slow and while prices are unchanged there is plenty of material being offered. Steam cylinder stocks are also finding a very limited outlet. The export movement of this material from time to time at prices generally below the general market relieves the conditions temporarily and as a result prices have shown fair stability. Bright stocks continue weak and prices are thought to be on bottom, as refiners claim but a small manufacturing margin at the present market prices. Wax has shown additional strength and the latter offerings of the February production are generally from an eighth to a quarter cent above the price on ship-

(Continued on Page 129)



Note. Effective February 13 the price shown for 58-60 U. S. Motor refinery gasoline is the average price as derived from reports from representative refiners covering their sales on Monday of each week. Prior to that date the price shown was the low quotation.

Steady Improvement at Refineries

Survey Shows Many Changes Under Way in All Parts of United States Looking to Greater Plant Efficiency

By C. O. Willson

Despite the handicap of relatively low prices for refined products, the past year has witnessed a steady expansion in the improvement of refinery facilities. A few new plants have been built and at the older refineries a majority of the owners have improved their operations through the installation of new equipment. Most of these companies will continue these improvement programs during 1928.

A survey of refinery operations in all parts of the country, now being completed by The Oil and Gas Journal has reflected this steady change in operations of individual companies. As explained by one operator "the low prices received for refined products has not relieved the refiners of the necessity of bettering their manufacturing operations but on the contrary has made it imperative that they secure the maximum yields of the highest priced products at the lowest possible operating costs." Changes in the specifications of products — notably gasoline—have also been responsible for some of the changes made at the refineries.

California

In California, the Standard Oil Co. of California has completed seven Dubbs cracking units at its Richmond refinery with a rated capacity of 17,500 bbls. daily. The company a year ago had a construction program outlined which called for the building of cracking units both at the Richmond and El Segundo refineries each of which have a rated crude skimming capacity of 100,000 bbls. daily. This program was not carried out in full due to the slump of the gasoline market. The same company under the name of the Pasotex Petroleum Co., is building a 10,000-bbl. skimming plant at El Paso, Tex. This plant will receive its crude oil supply from the West Texas fields. Later it is expected that the plant will be connected to the fields with a pipe line.

The Amorco topping plant of the Associated Oil Co. in California is now shut down. The plant has a capacity of 10,000 bbls. daily. The company is operating its Avon refinery with a capacity of 60,000 bbls. daily and its 10,000-bbl. topping plant at Watson.

The California Petroleum Corp. during the past few months completed the installation of Holmes-Manley cracking equipment at its Watson, Calif., plant. The units have a rated capacity of 2,000 bbls. daily. Should the proposed merger of the company's properties with those of The Texas Company be finally approved, this refinery and three smaller plants in California and Montana will be added to the ten refineries which the latter company operates at this time. The Holmes-Manley cracking units were installed through a license agreement with The Texas Company.

The Process Construction Co., affiliated with the Western Oil & Refining Co., is now operating an 800-bbl. Jenkins unit at Wilmington, Calif. The Western's 10,000-bbl. skimming plant is located at that point.

Roxana Plants

The Roxana Petroleum Corp. has added to the capacity of its three refineries so that it now has a crude oil capacity of 87,000 bbls. daily. This is divided as follows: Wood River, Ill., 40,000; Arkansas City, Kans., 20,000 bbls.; East Chicago, Ind., 27,000 bbls. The same plants have the following cracking capacities: Wood River, 14,000 bbls.; Arkansas City, 6,000 bbls., and East Chicago, 8,000 bbls.

The Standard Oil Co. of Indiana now has Holmes-Manley cracking units in operation at its Whiting, Ind., Wood River, Ill., and Sugar Creek, Mo., refineries. These are in addition to the Burton units which have been operated for several years.

At Wood River, the White Star Refining Co. is installing new bubble towers on a battery of rerun stills. The same company is installing a new continuous acid treating plant. At Joliet, Ill., The Henry H. Cross Co. of Chicago, is making test runs at a skimming plant which it purchased several months ago.

At El Dorado, Kans., the Skelly company during the past year has enlarged its skimming capacity to 23,000 bbls. daily. The Standard Oil Co. of Kansas in addition to its Burton cracking equipment now has two units of the Holmes-Manley cracking equipment in operation.

Resume Operations

The Louisville Refining Co. expects to start operating its Louisville, Ky., refinery about March 1. The plant which has been shut down for some time has both skimming and cracking equipment. The Standard Oil Co. of Kentucky refinery at Louisville, which was shut down November 1, is still not operating.

At Norco, La., (near New Orleans) the New Orleans Refining Co. is building 10,000-bbl. daily additional topping capacity. The present rated capacity is 10,000 bbls. daily. At Shreveport, La., the Shreveport Producing & Refining Corp. has improvements under way which will increase the capacity to 10,000 bbls. daily by May 1. A new pipe still skimming unit is being built and other new equipment added.

The Standard Oil Co. of Louisiana is completing the installation of two Cross cracking units of the high pressure tube and tank type. These units are of the latest type of hot oil recirculating units with a rated capacity of 5,000 bbls. daily of fresh feed. These hot oil recirculating units have been installed during the past year at the Pittsburgh, Pa., refinery of the Waverly Oil Works; Pittsburgh, Pa., refinery of the Atlantic Refining Co.; Providence, R. I., and Greenpoint, Long Island, refineries of the Standard Oil Co. of New York; Okmulgee, Okla., refinery Barnsdall Refineries, Inc.; Hynes, Calif., refinery of the Richfield Oil Co.; Forth Worth refinery of the Texas Pacific Coal & Oil Co.; Maurer, N. J., refinery of the Barber Asphalt Co. and the Baytown, Tex., refinery of the Humble Oil & Refining Co.

In Montana, at Sunburst, the Snow Cap Oil Co. before the end of the month will start operating a skimming plant. The plant will have a capacity of 700 bbls. daily and will operate on crude oil from the Sunburst Field. The Toole County Refining Co. has taken over the Oilmont, Mont., skimming plant formerly operated by the Absher Refineries, Inc. The plant has a capacity of 300 bbls. daily. At Sunburst the skimming plant formerly known as the International Refining Co., is now owned and operated under the name of the California Petroleum Corp., which purchased it in the fall of 1926. The plant operation has been improved during the past year through the installation of pipe stills.

Replace Burton Units

The Tide Water Oil Co., formerly a large user of the Burton cracking equipment, has dismantled its units and is now using the Tube and Tank process exclusively. The units have a total capacity of 7,000 bbls. daily. A subsidiary of the Tide Water, the Tidal Refining Co. of Tulsa, also installed two units of the Tube and Tank process at its Drumright, Okla., refinery during the past year. The process is obtained through a license agreement with the Standard Oil Co. of New Jersey, owners.

The Paragon Refining Co. now has Dubbs cracking units in operation at its Toledo, Ohio, refinery with a total capacity of 2,500 bbls. daily. The refinery's lubricating oil and wax plants are shut down. The Solar Refining Co., at its Lima, Ohio, refinery will start operating a new 7,500-bbl. pipe still this month. The unit will be operated as a skimming plant.

In Oklahoma, the skimming capacity of the Globe Oil & Refining Co. refinery at Blackwell, has been enlarged to 7,500 bbls. daily. The Ponca City, Okla., refinery of the Marland Refining Co. now has a rated crude capacity of 27,000 bbls. daily. The refinery has Dubbs, Cross and Fleming cracking units in operation with a combined capacity of 27,000 bbls. daily. The Mid-Continent Petroleum Corp. has increased its skimming capacity from 35,000 to 40,000 bbls. daily. The corporation during the past year has installed additional cracking equipment of its own design with a rated capacity of 12,000 bbls. daily.

All the refineries of the Pierce Petroleum Corp. in the United States are shut down with the exception of Sand Springs, Okla., plant. The compounding and grease plants of the corporation at Texas City, Tex., are operating.

The Pure Oil Co. has made numerous improvements and enlargements at its six refineries. The cracking capacity of the Marcus Hook, Pa., refinery has been increased to 8,000 bbls. daily and that of the Nederland, (Smiths Bluff), Tex., refinery to 13,000 bbls. The Muskogee, Okla., refinery now has a skimming capacity of 9,000 bbls. daily with a cracking capacity of 4,000 bbls. The Cross type of cracking equipment is used at all three refineries. Late in 1927 the company placed in operation at its Cabin Creek, W. Va., refinery its first units of the Gyro vapor phase cracking process. The Pure's Ardmore, Okla., refinery was temporarily shut down in January of this year.

The Atlantic Refining Co. has increased the cracking capacity of its Point Breeze (Philadelphia) refinery so that its capacity of the Cross and Lewis types totals 32,000 bbls. daily. The company's cracking capacities at its Franklin, Pa., refinery total 6,000 bbls. (Cross type) Pittsburgh, Pa., 4,000 bbls. (Cross type) and Brunswick, Ga., (Lewis type) 2,000 bbls.

The Freedom Oil Works Co. is now building a pipe still with new towers at its Freedom, Pa., refinery. The petroleum plant of the Starlight Refining Co. at Karns, Pa., was enlarged 100 per cent during 1927.

The Gulf Refining Co.'s new skimming plant at Philadelphia now has a skimming capacity of 25,000 bbls. daily. No other important changes were made in the Gulf refinery operations during the year. Its four refineries located at Bayonne, N. J., Philadelphia, Fort Worth and Port Arthur, Tex., have a rated capacity of 183,000 bbls. daily. The company's Port Arthur refinery with a capacity of 125,000 bbls. daily continues to be the largest plant of the refining industry.

Humble Expands

The Humble Oil & Refining Co. has made important changes in its refinery operations with additional enlargements under way. The company's refinery at Baytown, Tex., now has a rated capacity of 100,000 bbls. daily or twice what it was a year ago. In addition the com-

(Continued on Page 129)

President Teagle Endorses Work of Committee of Nine

NEW YORK, Feb. 11.—Walter C. Teagle, president of the Standard Oil Co. of New Jersey, made the following comment for The Oil and Gas Journal on the recent Committee of Nine report:

"The report on a proposed legislative program for conservation of gas and petroleum resources which was made public recently by Secretary Work, chairman of the Federal Conservation Board, has an importance that has not yet been generally recognized. The findings amply support the considerations that led the Board to appoint the Committee of Nine, three members selected by the Government, three by the Bar Association and three by the petroleum industry. Prior to the naming of the committee, a great mass of information bearing on conservation had been collected by the Board and so much of this had reference to legislation as to indicate the need for a more careful study of this particular phase. The resulting report is of the greatest value, because it crystallizes in compact form a review of conditions and a recommendation of practical means of reform. It brings to the attention of Congress and the public the real crux of the conservation problem.

"The Committee's recommendations may not be accepted in toto by the Board or Congress, but they cannot be ignored and should be of the greatest help in the forthcoming discussion of new legislation. I am sure that most people in the industry would be willing to endorse the general conclusions and the remedies proposed. The character of the men who compose the Committee is itself a guarantee of the value of their findings."

Mr. Teagle's comment on the work of the Committee of Nine reflects the general feeling expressed to The Oil and Gas Journal in oil circles here, both that satisfactory progress toward oil conservation is being made, and that a more sane view of the existing problems of the petroleum industry and methods of solving them is taking hold everywhere. Oil executives here believe the industry is on the right path toward the solution of its problems, despite the fact that progress being made is necessarily slow.

Texas Panhandle Magnetic Anomalies

Actual Survey Made Across Territory Where Subsurface Lithology and Structure Were Definitely Known

By Carl C. Adams*

During the past year the trade and technical journals of the oil industry have carried numerous articles announcing the advent of geophysical instruments into the field of petroleum geology. These articles usually enumerated the processes and instruments and stated the basic phenomena by virture of which they function. Almost no operating data or methods of converting the geophysical readings into terms of earth formation and structure have heretofore been published.

During the summer of 1927, the writer conducted a system of magnetic surveys in the central district of the Texas Panhandle. This was for the purpose of measuring the various factors of earth magnetic force in a district where the subsurface lithology and structure was definitely known from information furnished by numerous well logs, thus affording an opportunity for comparing the anomalies with known subsurface features and noting their inter-relation.

A Haalck "Universal" magnetometer was used. This instrument is a very recent development of the Adolph Schmidt type of magnetic field balance and differs from the instruments heretofore in use in structural geological work in that both the horizontal and vertical components and the declination of the earth force can be read. As the inclination can be determined trigonometrically from the two components, all factors of the magnetic force can be determined with the one instrument.

Absolute value of the magnetic force is not determined with this instrument in the ordinary field routine, although such measurements can be made by using an auxiliary standardized magnet. The field balance measures differences in magnetic potential at the different survey stations and by connecting the survey with a station at which the absolute values have been determined by the United States Coast and Geodetic Survey, in a manner similar to connecting a leveling survey to a sea level datum bench mark, the absolute magnetic value can be developed at each survey station.

Line of Survey Selected

A line of survey was selected which crosses the Panhandle Arch transversely and traverses areas where the subsurface is developed by the greater number of wells. Its initial point is at Miami, in the Anadarko Basin on the north side of the arch. It passes through Pampa and the Wilcox and Bowers fields and continues southerly through the Alanreed district and to a terminus at Clarendon, which is well down structure on the south side of the arch. Besides cutting the main granite ridge structure through a district developed by drilling, this location also develops a portion of the arch where the granitic mass attains its greatest elevation in a series of parallel ridges rather than a single, extensive dome and has the further advantage of having three magnetic stations on its course where absolute values have been determined by the Coast and Geodetic Survey.

Absolute values of magnetic force, reported by the United States Coast and Geodetic Survey in its special publication No. 44, as of January 1, 1915, are as follows:

	Horizontal Intensity in C.G.S.	Inclination Deg.	Inclination Min.
Miami	.2430	64	52
Lefors	.2461	64	43
Pampa	.2428	64	59

From the equation $Z = \frac{H \sin I}{\cos I}$ C. G. S.

—10 the vertical component for that date is computed in gammas: Miami 51,800, Lefors 52,101, Pampa 52,042, and Clarendon 51,516.

The inclination of the earth magnetic current increases with progress toward the north magnetic pole. Consequently the vertical component Z increases in the same direction while the horizontal factor H decreases. The normal rate of change in the Panhandle district is 9.2 gammas per mile for H and 16.1 gammas per mile for Z.

Cyclic change of earth magnetism is at present tending to increase the angle of inclination and to decrease the intensity. The rate of this movement is constantly being measured by the Coast and Geodetic Survey and from the information secured from their measurements, the change, during the 12½ years from January 1, 1915 to July 1, 1927, has been computed and results in the following values:

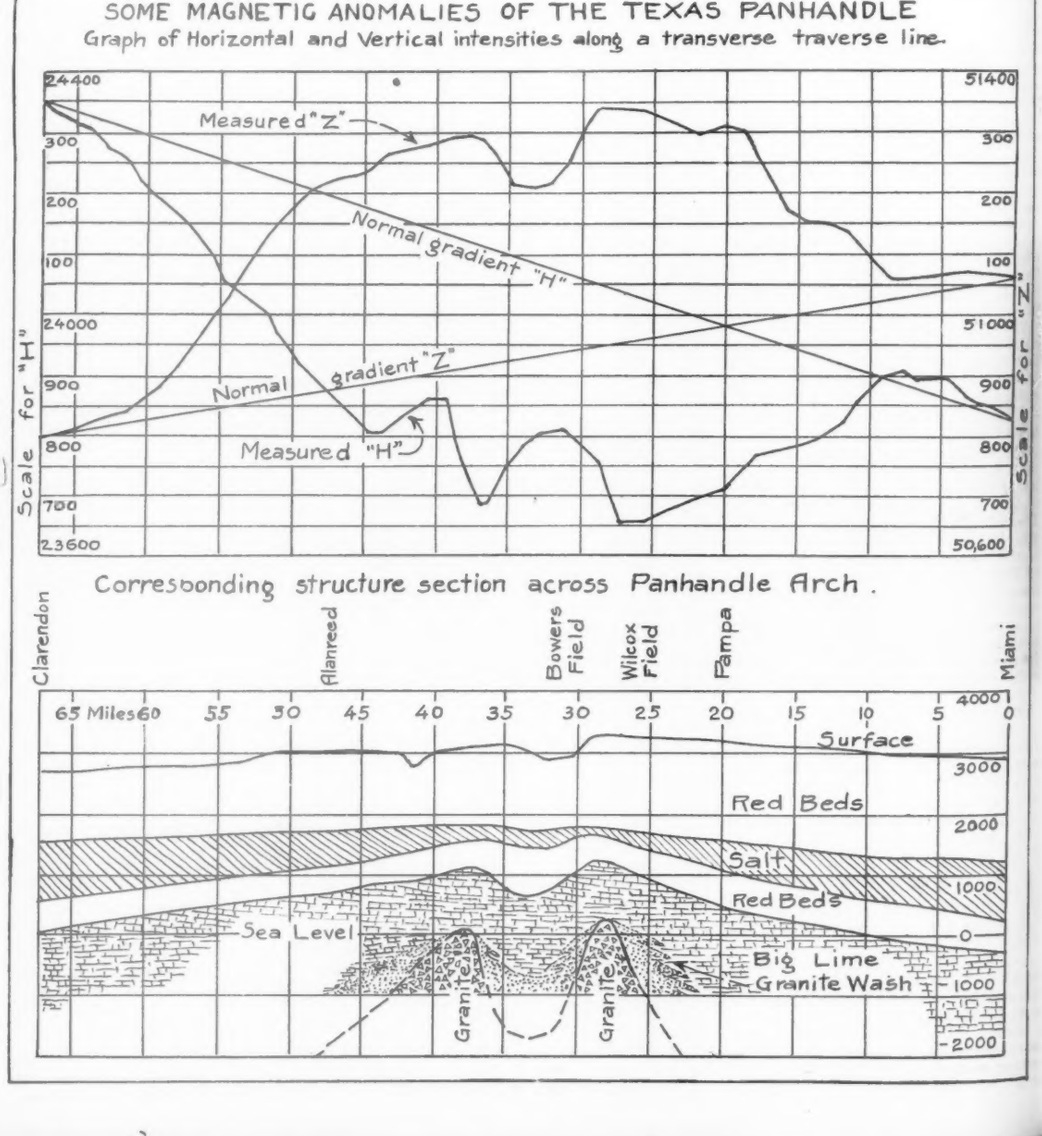
Magnetic factors as of July 1, 1927:

	In Gammas H	In Gammas Z	I Deg.	I Min.
Miami	23,730	51,065	65	02
Lefors	24,040	51,369	64	52
Pampa	23,712	51,310	65	11
Clarendon	24,354	50,801	64	24

The magnetic survey was commenced by balancing the magnetometer at the station at Miami and then reading the differences at several stations along the profile line in a series of closed circuits. Each day's work was checked back by a reading on a station of known value and the station readings were modified by the error of closure, the base correction and the factors for diurnal change and adjustment for effect of temperature. No base instrument was employed, as the above method of checking kept the errors within known limits and these limits being much less than the discernible effect of subsurface structural features, so far as present understanding of the phenomena permits their interpretation, the base instrument was regarded as not essential. Its only useful purpose is to define the time and magnitude of magnetic storms, as the other corrections to field readings must be made independent of the base instrument and the system of closing each day's circuit defines errors of field reading when they are due to storms.

Stations were read at 2 or 3-mile intervals where no material change in intensity was observed and at half-mile intervals in the localities of rapid change. The balanced H and Z values, in gammas, are platted on the accompanying chart. Altitude represents magnetic intensity in 50-gamma intervals and abscissa represents distance along the traverse line in 5-mile intervals. No attempt has been made to determine whether or not the initial and terminal stations of this traverse are above or below the normal value of magnetic intensity. It is probable that their location in structural synclines and in localities where the salt deposits are of unusual thickness results in a subnormal intensity. It is sufficient for the purpose of this investigation to assume that the values are normal and to compare the intensities of the granite ridge locality with them by direct equation. For this purpose, straight lines are drawn on the graph connecting the initial and terminal points and representing a normal gradient between them. The scale value of the interval between the measured line and the normal line

(Continued on Page 130)



*Mr. Adams is a consulting geologist who is specializing in magnetic work. His office is at For. Worth, Tex.

Shooter's Life Loses Old-Time Thrills

Transportation So Safeguarded That Nitroglycerin Truck May Upset With Little More Danger Than If It Bore Molasses

By Thomas F. Smiley

Among memories carried through a life marked by a varied assortment of ups and downs, mostly the latter, is that of a family burial plot in the little cemetery (always called "the graveyard") back of Reno, Venango County, Pennsylvania. Like many other towns along the Allegheny River and Oil Creek, that sprang magically into being with the discovery of oil, Reno flowered roseately for a little while and then wilted.

This particular plot stood out from among the others in the unkempt, bramble-covered burying-ground for two reasons. First, it was the only one enclosed by a fence, thus giving it an air of exclusiveness and dignity that were absent elsewhere. Second, William Munson lay buried there—that is, all of William Munson that had been recovered after the accident that tore him to shreds.

"They didn't find enough pieces to fill a cigar box," was the way they used to close the story of petroleum's first nitroglycerin fatality. Munson had a factory near Reno for making nitroglycerin. He was working in this factory one day in 1867 when an explosion—there were no witnesses to tell how it occurred—blew him and the buildings to fragments.

Thus it came about as the result of a sepulchral childhood memory that oil-well torpedoes and the business of shooting wells seemed to be inseparably associated with sudden death and dismemberment. All in the past tense, it will be observed, for a two-hour chat with W. H. (Bill) Swartz, Tulsa, veteran oil-well shooter, and now assistant to the general manager of the Eastern Torpedo Co., knocked the old notions into a cocked hat.

In the first place nobody could sit down with jovial Bill Swartz and think of such things as tombstones and life insurance. One might as well try to draw inspiration for a funeral oration from Will Rogers. In the second place, Bill demonstrated beyond the shadow of a doubt that the hazards which used to make it impossible for a shooter to know whether he would be wearing a derby or a halo that evening have just about vanished—that is, so far as transportation of nitroglycerin is concerned, and that's where most of the accidents occurred.

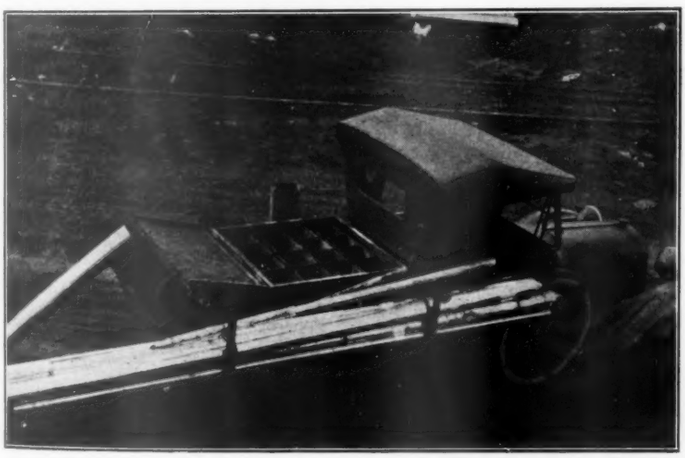
If the twinkle of Bill's eye disappeared at any time it was when he commented on the humdrum life of the oil-well shooter of 1928. One might even have caught an impression that he harbored a secret regret that so much of the peril and adventure that attended the shooter's life in the old days had gone forever.

Oh, Bill is proud of the advances made in his business. Make no mistake about that. He's proud to the point of downright vanity of the devices now in use which make it possible for a nitroglycerin truck to upset, turn somersaults and cut figure eights without any more serious results than if it contained 150 quarts of New Orleans molasses instead of that amount of death and destruction. But that's the commercially minded, industrially progressive Bill, not the Bill whose venturesome boyhood never did quite end.

In the latter half of the nineteenth century the vehicle used by shooters for carrying nitroglycerin was a horse-drawn spring wagon. Covering the bottom of the wagon bed was a zinc pan about 4 inches deep in which either 15 or 20 cans of nitroglycerin rested, separated by board partitions. This pan was regarded as marking a distinct step in the direction of increased safety in its day. Its function was to catch any of the fluid that might leak from the cans and thus prevent it from coursing down to the springs or running gear where friction could—and did—cause disastrous explosions. Bill Swartz still has one of these old-timers, preserved as a relic only.

Rubber Boot Introduced

When the automobile supplanted the horse-drawn wagon the height of the pan was increased, but there was no outstanding invention designed to reduce the shooter's hazards until 1919, when introduction of the "rubber boot" marked an epoch. This boot, simply a rectangular rubber box, open at the top, is slightly higher than the 10-quart can which it encases and it is sufficiently larger than the can to insure that if a leak occurs none of the nitroglycerin will get outside the boot.



Much of the peril of transporting nitroglycerin has been eliminated by the adoption of this safety box, with its shock-absorbing compartments.

In the modern motor-driven conveyance for carrying nitroglycerin the wooden safety-box, as it is called, built to hold fifteen or sixteen 10-quart cans, is fastened firmly on the chassis. A copper pan or box fits snugly inside this. Its sides are of the same height as those of the wooden box. On the bottom of the pan lies a thick blanket of rubber. The rubber boots, each containing its 10-quart can of nitroglycerin, stand on this blanket. Wooden partitions separate the boots and help to prevent jostling. In the bottom of each boot a handful of hay is placed. This hay not only serves as a further cushion for the can resting on it, but it saves wear on the boot. Over all is stretched a thick layer of felt. Then the hinged wooden lid, covered with oilcloth, is clamped down.

So thoroughly has jarring been eliminated by these measures that if a man were determined to explode a load of nitroglycerin he would be forced to use an ax. Trucks thus safeguarded have been subjected to about all the regular run of traffic accidents, including overturning, without any explosion occurring.

Few Accidents in Derrick

The value of this system of absorbing shocks cannot be overestimated, it is declared, for the reason that almost all the old-time nitroglycerin accidents occurred in transportation. There rarely were accidents on the derrick floor. Need of extreme care in handling nitroglycerin about the magazine still remains, but even here the danger has been reduced by more rigid safety regulations and by the adoption of additional mechanical safeguards.

In the past year the torpedo companies have begun using heavy copper cans instead of the tin ones that had served from the beginning. This is expected to eliminate a fruitful source of leaks. When the cans are loaded with nitroglycerin a space about 2 inches deep is left unfilled at the top. This is a precaution taken to prevent accidents that might be caused by expansion. Around the can at the point where the fluid and the air space meet it was common for pinholes to appear in the old tin cans. Copper resists more effectually the corrosive action which caused these pinholes and the resultant leaks.

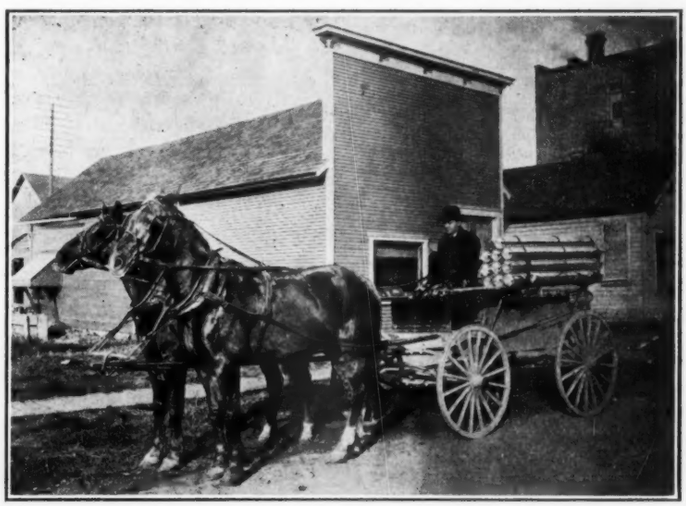
It probably should be mentioned here that explosive gelatin and solidified nitroglycerin are sometimes used in shooting, because of the greater safety attending them. They are slower in action, however, and unless directed to do otherwise by the owner of the well, the expert shooter ordinarily uses nitroglycerin.

Placing the Shot

The correct placing of the shot, as most oil men know, requires a high degree of care and accuracy. The shooter ascertains from the log of the well the depth of the hole, the distance from the bottom of the hole to the top of the productive sand and the thickness of the sand itself. He attaches an anchor to the bottom of the first shell (the cylindrical tin container for the nitroglycerin). This anchor is 1¼-inch tin tubing of sufficient length to extend from the bottom of the hole to the bottom of the productive sand. The shooter fills the first shell with nitroglycerin and lowers it until the anchor of 1¼-inch tubing is resting on the bottom of the hole. He then fills and lowers enough more shells to fill the hole to a point a little below the top of the sand.

Sometimes the log shows the sand is broken by layers of shale. If these shale breaks are wide the shooter often places lengths of the 1¼-inch anchor tubing where the breaks occur, the tubing being filled with nitroglycerin, to insure explosion of all the shells. When so arranged the heavy charge of explosive breaks up the oil-bearing sand only, the anchor tubing covering the barren strata. The productive formations vary greatly in thickness. In the Mid-Continent Field they range all the way from 5 to 100 feet.

In accordance with the thickness and texture of the producing sand the shot is heavy or light. For instance, in the hard sand of the Bartlesville Field, the heavier the shots the more the production is increased, generally speaking; but in the Seminole and Drumright Fields the sand is so soft that only "squib" shots are used—that is, shots averaging less than 30 quarts. In the Ranger district of Texas, 200 to 500 quarts are used to a shot. Big shots are employed in the Panhandle district of that State also. The shells are made in various diameters to accommodate them to the diameter of the hole and usually hold 10, 20 or 30 quarts.



Whenever Bill Swartz started out on a shooting job with this outfit back in 1899, in Gibsonburg, Ohio, it was a matter of speculation whether he would finish the day intact or not.

"Go-Devil" Still Used

The "go-devil," with which the shot of nitroglycerin in the hole was set off throughout the early days of torpedoing is used still in oil fields of Ohio and Pennsylvania where the rock formations stand up. This device is simply a cast-iron weight which, dropped down into the hole, strikes a firing-head and detonating cap fastened to the topmost shell containing the explosive. It has been supplanted in most of the work in the western fields by various types of squibs, some with time-clock attachment.

A common device for setting off the shot in the hole is the "bomb," made of cast iron and containing three and one-half sticks of dynamite. When the shot has been placed in the desired position in the hole the bomb, with clock attachment, is lowered till it rests on the top shell. Clocks now on the market permit

(Continued on Page 130)

Growth of Refining Abroad Is Rapid

But Foreign Consumption Is Steadily Increasing. Nationalized Petroleum Programs and Government Plants Are Factors

By Special Correspondent

The trend of United States petroleum export trade in 1928 depends, in the last analysis, upon two factors: first, a continuation of the progressively increasing consumption of petroleum products abroad; and, second, the maintenance of the important position of the United States in supplying that consumption.

There is little or no reason for assuming that foreign consumption will do other than continue to increase. The increasing motorization of Europe, the remarkable progress of good roads movement in South America, Africa and other parts of the world, continued political and economic stability abroad, with improved standards of living, all are but a few of the many reasons underlying a general trend to increased consumption abroad.

When we come to the present position of the United States in the oil export trade there are a number of outstanding developments abroad that will have a large influence on this trade. Among these may be noted the prospect of greatly increased production in South America and Persia with probable slight increases in Russia, the tendency to establish greatly increased refining capacity outside of the United States, substitute fuels in Germany, subjection of the industry to political control in many foreign countries and a closer co-ordination of foreign competitors.

Before proceeding to a more detailed discussion of the above it might be well to see what happened in 1927 from the following preliminary figures issued by the Bureau of Foreign and Domestic Commerce:

Domestic Exports of Petroleum and Refined Products

	12 Mos. Ending Dec. 1926	1927
Petroleum crude (bbls.)	12,406,045	15,843,405
	$ 28,495,773	25,944,489
Total refined petroleum (bbls.)	108,397,776	115,501,010
	$497,211,908	429,900,884
Gasoline, naphtha and other light products (bbls.)	42,479,876	43,436,328
	$263,199,938	210,369,625
Oils—Illuminating (bbls.)	22,016,215	19,279,503
	$100,852,877	78,873,861
Oils—Gas and fuel (bbls.)	34,516,390	43,018,508
	$ 45,354,108	49,943,814
Oils—Lubricating (bbls.)	9,256,359	9,622,894
	$ 86,414,621	88,826,865
Other refined petroleum (bbls.)	128,936	143,777
	$ 1,890,364	1,886,719
Paraffin wax (lbs.)	335,583,747	340,297,094
	$ 18,934,245	15,029,503

Decrease in Value

From the above it will be noted that the total export of crude and refined liquid products totaled 131,344,415 bbls. in 1927 as against 123,803,821 bbls. in 1926. However, against this increased export of 7,540,594 bbls. we have a valuation decrease from $525,707,681 in 1926 to $455,845,373 in 1927, or $69,862,308, of which decrease $52,830,313 were contributed by gasoline alone, leaving only $17,031,995 to be distributed over all other products.

Actual commercial production in Irak will hardly occur in 1928, although this eventual production has already been largely responsible for the proposed new French legislation to re-establish a domestic refining industry in France. South American production in 1928 will be approximately as follows, according to a conservative estimate:

Estimated Production in 1928

Country—	Bbls.
Venezuela	110,000,000
Colombia	20,000,000
Peru	10,000,000
Argentina	8,500,000
Trindad	5,200,000
Ecuador	540,000
Total	154,240,000

South American production in 1927 was 102,650,000 bbls, hence 1928 is expected to show an increase of 51,590,000 bbls.

Colombian crude will continue to move to the United States and Canada at the rate of slightly over 50,000 bbls. a day. Venezuelan crude will continue to move to Gulf and Atlantic Coast refineries in larger quantities. The November statistics of the Government showed that 3,475,000 bbls. of oil were imported into the United States from countries other than Mexico. In December, approximately 4,500,000 bbls. were imported, or a gain of 1,000,000 bbls. in this month. Mexican production in 1928 will probably be close to 50,000,000 bbls. in comparison with 64,000,000 for 1927. Russia's production available for export will probably be 2,100,000 metric tons of all products, or approximately 5 per cent in excess of 1927. Russia now exports about one-fifth of her total production and supplies approximately 10 per cent of Europe's requirements. Financial and mechanical difficulties will prevent any great increase in Russian exports regardless of production trends. Polish production will probably show a slight decline while Rumania will continue to register slight gains.

Foreign Refining

The British Board of Trade Journal gives some figures which illustrate the rapid growth of the petroleum refining industry even in countries which produce no petroleum. As recently as 1913 Great Britain imported only 1,000,000 gallons of crude petroleum, getting practically all her petroleum products from abroad. Then importations of crude oil, to be refined in Great Britain, began. They have since risen steadily until the 1,000,000 of 1913 has growth to 539,000,000 gallons in 1926. Of this the greater part came from Persia, Venezuela, Mexico, Colombia and the United States together furnishing about one-fourth of the petroleum.

Imports of gasoline into Argentina for the first nine months of 1927 show a decrease of 244,000 bbls., or 12.7 per cent, over the same period of the preceding year. This decrease is undoubtedly accounted for by the increased supply available within the country as a result of the government operation of the 12,000-bbl. refinery at La Platanear, Buenos Aires.

Spain has included as a part of the Royal Decree establishing the Petroleum Monopoly, a provision that within a period of five years from January 1, 1928, the Monopoly Concessionaire must develop sufficient refining capacity in Spain to supply 80 per cent of the domestic requirements of refined petroleum products. France by the same proposed legislation to regulate oil imports also includes a provision to stimulate the importation of crude oil for the rehabilitation of the French refining industry.

Future Expansion

Some time ago a large American oil company, active in Colombia, announced its intention of establishing a sizeable refinery at tidewater in Colombia, probably near Cartagena. By the recent Emergency Petroleum Bill of Colombia, the Colombian government indicates an intention to build and operate a governmental petroleum refinery. Whatever the outcome in regard to petroleum legislation at the next Colombian Congress, no additional refining capacity there will disturb American export trade during 1928, although it must be expected in the near future.

The Mexican Eagle Oil Co. (Royal Dutch-Shell) is building a sizeable refinery at Aruba, Dutch West Indies, to process Venezuelan crude oil. Indications are that American interests will shortly establish a large refining capacity either in the same place or in Venezuela. A recent newspaper item states that the Lago Petroleum and Transport (Standard Oil Co. of Indiana) will build a 75,000-bbl. a day refinery in Venezuela. The Venezuelan government is particularly desirous of developing a domestic refining industry to secure larger benefits to the national economy from the remarkable development of Venezuelan petroleum resources.

In Peru there is considerable talk of the establishment of a governmental refinery. A British subject, G. V. Holden, is also attempting to receive a government concession to operate a refinery at Callao. While it is understood that negotiations are in progress, the outcome is too problematical for further discussion at this time.

The remarkable development of petroleum refining in Canada is already indicated in the increasing imports of crude oil into that country coincidental with decreased importations of gasoline and a constantly increasing gasoline consumption.

Russia is purchasing large quantities of refining equipment to minimize as much as possible the export of crude and fuel oils. Whether the equipment placed in operation in 1928 will do more than replace obsolete equipment remains to be seen.

A cracking plant is to be put in operation in Italy, near Naples, but the capacity of this plant is unknown at this time.

Oil From Coal

Germany is expected to produce from 100,000 to 150,000 tons of "oil from coal" under the Bergius process during 1928. According to the rate at which the consumption of petroleum has increased in Germany during the past few years, this amount will supply only a portion of the national annual increased consumption and will have no radical effect on imports. France and England have not yet reached the actual commercial large scale production of liquid fuels from coal or the various synthetic processes now under experimentation.

Nationalized production in Mexico and Rumania has produced results far from satisfactory in which 1928 holds promise of certain modifications which will be welcomed by the industry at large. It is still too early to predict the results to be obtained by the Polish Petroleum Cartel in regulating sales and prices. The Spanish Petroleum Monopoly started to function on January 1, 1928. On the success or failure of this monopoly probably depends the extension of similar monopolies in Europe and South America. It is difficult to see how the Spanish government can at one time successfully finance the expropriation of all oil properties in Spain and carry on such a highly technical business as oil distribution on a national scale without such increased costs as to make the use of petroleum almost prohibitive.

Intensified competition in foreign markets resulting from the low prices of petroleum products, in turn largely attributable to overproduction in the United States, is eliminating many of the smaller foreign importers and distributors abroad. At the same time the closer co-ordination of the Royal Dutch-Shell interests and the expansion of the Anglo-Persian Oil Co. will all result in this foreign business being concentrated in the hands of a relatively small number of the more powerful organizations.

On the whole 1928 promises to mark an important period in the international oil industry from which the American industry should emerge in a stronger position.

West Texas Issue of February 23 Will Contain Wealth of Data

The February 23 issue of The Oil and Gas Journal will contain a 48-page insert devoted to the petroleum industry in West Texas. Every feature of the industry in that vast and prolific oil producing area will be covered in this issue which will be profusely illustrated by photographs obtained by the staff photographer of The Oil and Gas Journal during an extensive trip through all fields in that section. In addition there will be a two-page map showing all pipe lines and oil fields together with detail maps of the most active fields.

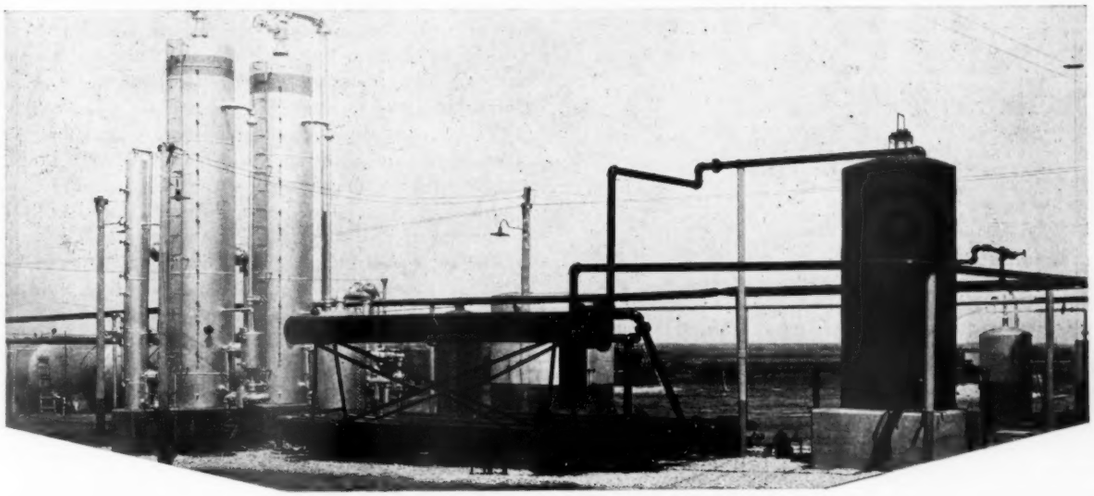
Corrosion problems, which are the subject of intensive study and investigation on the part of all operators, pipe line companies and equipment manufacturers, are treated in special articles, one of which is written by a prominent engineer who is chairman of a committee making a special study of the subject.

It is believed this issue will prove a veritable gold mine of information not only for the companies and individuals operating in West Texas but for everyone in the petroleum industry, as this area will wield a great influence on the entire petroleum situation during this year.

NEWTON

Absorption Plants

NEWTON PROCESS IS THE PROFIT PROCESS



efficient
economical
portable
compact
accessible
salvageable

REPRESENTATIVES
HURLEY BROTHERS
Kennedy Bldg.
Tulsa, Okla.

REPRESENTATIVES
The NATIONAL SUPPLY CO.
General Offices: Toledo, O.
and All Stores

FOREIGN REPRESENTATIVES:
THE NATIONAL SUPPLY CORP.
120 Broadway, New York

NEWTON PROCESS
MANUFACTURING COMPANY

904 Hollingsworth Bldg., Los Angeles, Calif.

The OIL and GAS JOURNAL
PRODUCING REFINING MARKETING

Published Weekly by
THE PETROLEUM PUBLISHING COMPANY
114-116 West Second Street
TULSA, OKLA.

Established as an International Publication in 1910 by Patrick C. Boyle

President - - - - - - - - - - - - - - Frank T. Lauinger
Vice President and General Manager - - Robert W. Egan
Secretary-Treasurer - - - - - - - - - - - W. T. Bryan
Editor - - - - - - - - - - - - - - - James McIntyre
News Editor - - - - - - - - - - - Andrew M. Rowley
Associate Editor - - - - - - - - - - - W. T. Anderson
Refinery Editor - - - - - - - - - - - - C. O. Willson
Technical Editor - - - - - - - Charles K. Francis, Ph.D.
Advertising Manager - - - - - - - - - Clarence Morris
Circulation Manager - - - - - - - - - - J. P Mulkern

DISTRICT ADVERTISING OFFICES
C. L. CAIN - - Room 629, 101 Park Ave., NEW YORK CITY
E. KLAPPENBACH, 1328 Peoples Gas Bldg., CHICAGO, ILL.
ALVIN E. LOEFFLER State Theater Bldg., PITTSBURGH, PA

TERMS OF SUBSCRIPTION
(By Mail, Postage Prepaid)

Single copies - - - - - - - - - - - - - $ .15
Three months - - - - - - - - - - - - - $2.00
Six months - - - - - - - - - - - - - - $3.00
One year (in United States) - - - - $6.00
One year (in Canada) - - - - - - - $7.00
One year (foreign countries) - - - - $7.00

ADVERTISING RATES ON APPLICATION
Telephones: 6291-6292-6293
Remittances by Checks, Drafts, Express or Postal Money Orders should be made payable to
The Petroleum Publishing Company
Cable address, "Oilgasnal"

MEMBER AUDIT BUREAU OF CIRCULATIONS

SPECIALISTS IN THE INDUSTRY

The oil industry is becoming accustomed to the fact that it is increasingly dependent upon technologists within its ranks but it has not been so generally recognized that it is owing more and more to outside investigators and specialists who are using their particular knowledge and skill in their own industries to aid in solving the operating and manufacturing difficulties of the oil industry.

There was a time when the industry was considered self-sufficient. Given the materials it designed, built and operated anything it needed for its operations. That time has passed.

There is as much difference between the oil industry of the pioneer days and the present as there is between the one-hoss shay and the modern motor car. The wagon builder was sufficient to himself. The automobile manufacturer assembles in one machine the products of scores of organizations and the work of countless specialists. So it is with the modern oil industry.

The modern refinery and natural gasoline plant is practically an assembly of factory-made equipment in contrast to the time when materials were bought and equipment was improvised in the plants.

The man or organization that devotes his time exclusively to perfecting one particular piece of equipment, who takes into consideration its problems of operation in widely changing conditions observed at all stages, must, of necessity, be in position to contribute to the knowledge and efficiency of the ultimate operator. The oil industry has found it so and has profited through the labor of these specialists as have other industries in like circumstances.

We all honor the pioneers, the practical oil men of the older day, whose resourcefulness and ingenuity enabled them to cope with primitive conditions, but more intricate modern methods have brought new problems not so readily solved. The successful employment of geophysical instruments in the search for oil is an illustration of a contribution from outside the industry. But the trend is particularly noticeable in the refining branch.

Crude oils of varying characteristics, not previously known, have demanded complicated processing methods due to the necessity of securing maximum producing efficiency in plant operation. In refineries the manufacturing processes have been practically revolutionized within the past five years.

In distillation operations the pipe, or tube still, has wide application in both low and high-pressure distillation. In fractionation through proper design of equipment it has been made possible practically to do away with rerunning operations.

Modern perfection in design of heat exchanger equipment of all kinds has greatly reduced fuel costs, usually the largest single item in the expense of operating a refinery.

Cracking operations with high temperatures and high pressures have done away with makeshift work and design in all the units. Lubricant plant practices which were practically unchanged for a period of 25 years have recently undergone marked developments in processing. Power plant practices have been altogether revised.

The introduction of the highly scientific air and gas lift in the producing operations in the field has had a wide influence in the development of natural gasoline manufacture.

The technical progress of the industry has been so rapid that no organization, no matter how large, could hope to keep pace with it within itself. For that reason specialists have come in. Individuals, or groups of individuals, making a study for several years of one particular phase of production, refining, or natural gasoline manufacture, have been able to perfect equipment and make it available to the industry for each special purpose. These individuals or groups, as in other lines of industry, concentrating their study upon one particular feature, could accomplish more than some organization attempting to cover the operations of an entire industry.

These specialists, having contacts with a large number of operating companies, acquire an exact knowledge from experience that an individual company, regardless of size, could not hope to develop at the same cost. Thus a company through the purchase for a few thousands of dollars of some equipment that has been specially designed for a particular purpose based on the experience of a number of other plants may acquire what it might vainly have expended hundreds of thousands of dollars to obtain.

Take the study of distillation problems arising from the introduction of the so-called sour crude which would formerly have been disposed of as fuel oil without attempting to secure gasoline from it. Due to the work of these specialists means have been found of distilling this oil and breaking it into fractions some of which bring the maximum return to the refiner.

The corrosion angle attracted the interest of the metal industry to make tests to meet the practical needs of the refining industry in the various parts of their plants. These questions the oil industry could not hope to solve by itself as they were outside its province.

In the fractionation end through proper design of the towers it has been found possible to accomplish in one operation what previously had required several operations.

Naturally the oil industry has welcomed the invaluable aid of these so-called outsiders who have really made the oil industry's problems their own in the effort to supply satisfactory equipment.

These specialists have not only designed and completed the construction of plants and the installation of equipment to meet the special needs of the occasion but have made valuable suggestions regarding their operation. However well devised and perfectly equipped a plant may be the intricate processes of modern refining require that they be operated by a technically qualified force. It is useless for a company to make a large expenditure for expensive equipment and then not have an efficient force to operate it.

The contributions of these specialists to the progress of the oil industry cannot be overestimated. They are constantly studying and striving to meet the peculiar needs of all phases of the industry for special metals, paints, chemicals, processes and methods. To this end they make their own experiments, making discoveries that are of direct value in the oil industry's own operations.

The research work of the automotive industry resulting in the high compression engine is contributing to the oil industry's knowledge of the qualities of its own products. The oil burner manufacturers are aiding in developing a new market for our bulk product. At the same time the oil industry owes it to the industries consuming its products to study their problems and to contribute to their use its own special knowledge of the most efficient use of oil. In that way we too can enlarge our markets by aiding our customers just as the outside specialists have done for us.

Along the trail of the lonesome pines
S.R. Dresser Mfg. Co.
Bradford, Penna.
DRESSER
COUPLINGS
DOMINATE

Big Output May Be From Viola Lime

Producer in Pearson Switch Area of Oklahoma Attracts Widespread Interest Because of Doubt as to Formation

By J. L. Dwyer

A well drilled in the Pearson Switch area of Pottawatomie County, Oklahoma, has caused the spotlight to be temporarily switched from the Greater Seminole region. The well is the Indian Territory Illuminating Oil Co.'s No. 1 Sullivan, SW cor. NW SE Section 25-7-3, which found a formation as yet not definitely determined, at a depth of 4,204 feet, and made 2,724 bbls. the first 24 hours. The well is located some 18 miles due west of the Little River Pool, and some 20 miles southwest of the Earlsboro Field, the two nearest pools which have any pre-Hunton lime production, and although the new find has steadily put better than 2,500 bbls. per day into the tanks, the unusual feature of this well is that owing to the uncertainty of the producing stratum, there has been a very limited amount of acreage and royalty buying around this section.

When the average Wilcox sand well comes in in a new territory with a production equal to the Sullivan well, there is usually a concerted rush to acquire anything that resembles a loose lease, and in cases where the region is solidly leased, a considerable amount of trading is generally experienced, but to date, there has been a minimum of activity around the new well, and the general tone seems to be "hands off" until at least some more definite ideas of the origin of the production have been obtained.

The well touched a formation at 4,204 feet which yielded the oil, and this formation was penetrated to a depth of 4,213 feet. The well began to flow at the rate of 100 bbls. an hour, and has maintained a good rate of output since that time. The last samples which were obtained were unmistakably the Viola limestone, common to this part of Oklahoma, and appearing in the normal sequence of lithologic section, between the Sylvan shale and Simpson sand, at the base of the Silurian age. After the well touched the pay, there were no more samples available. When the paleontologists had examined the samples, they were unanimous in their declarations that the well was flowing from the Viola, and for that reason, there has been a natural reluctance to conduct any extensive acreage purchasing campaign around the well.

Might Be Surface Sand

True there were some sand samples found with the Viola fragments, but, they were so limited as to influence the thought that they had been introduced at the time that the steel measuring line was run to ascertain the depth of the hole. The common practice in using steel measuring lines when there are any lodestones present in the hole, is to pass the steel line throught a batch of sand, and also through a rag well saturated with crude oil.

This process seems to neutralize the line, and allows it to proceed to the bottom of the hole unmolested, whereas in many cases, the presence of lodestones or any magnetic attractions, would cause the steel line to cling to the casing and impede its progress towards the bottom. The limited amount of sand samples which were recovered, resembled surface sand rather than any sand which would be found in the Silurian or Ordovician ages.

The controversy which occurred as a result of this well, is the origin of the oil. Some geologists are inclined to believe that the well has just touched the Simpson sand which normally is situated immediately below the Viola lime, but the majority favor the theory that the oil is coming from the Viola.

The well of the Magnolia Petroleum Co. (SE cor. NE SW Section 25-7-3) immediately west of the Indian Territory Sullivan well, was flowing from the Viola lime. It was discovered last November, and had an initial production of 365 bbls. daily. It was making 300 bbls. daily when the Sullivan well penetrated the pay, and three days after the Sullivan well was drilled in, the Magnolia well stopped flowing. There have been efforts to revive its flow, but they have been unsuccessful to date. This peculiar behavior of the Magnolia well, caused some students to feel sure that the Indian Territory well is a lime well, and furthermore, that it is located upon a crevice which conducted the oil from the Magnolia well, and caused its production to be introduced into the drainage basin of the Indian Territory well.

The real origin of the oil will only be determined by time, and the drilling of adjacent wells. Should this one well be the only producer of the area, it will be assumed that the oil was coming from a highly freakish spot caused by abnormal porosity of the Viola lime.

The Viola limestone in the Seminole area has a normal thickness of from 20 to 70 feet. It appears in almost every well; very few miss it, and in some cases it has been productive. The best Viola wells have had a potential production of 100 bbls. daily, and this oil has been sacrificed in order to test out the possibilities of the Wilcox sand. There is no record of any Seminole wells producing permanently from the Viola in spite of the encouraging showings which this formation has held.

Likely from the Viola

There seems to be no geological reason why the Viola should not be a producing stratum. In some wells, the Viola has displayed a dolomitic nature. In geologic theory, when dolomite replaces limestone, there is a certain amount of shrinkage resulting, which at a later time causes a degree of porosity in the dolomite. When the Viola has a certain dolomitic nature, it is reasonable to believe that excellent production may result, and this lends strength to the theory that the Pearson well may be making its oil from the Viola.

In the Greater Seminole area, the Seminole City Pool which was discovered first, made its oil from the upper Wilcox sand. The sand in this pool possessed an unusually fine texture. The Bowlegs Pool south of Seminole City presented an unusually different picture, and the best production obtained from this pool was taken from a hard sandy dolomitic stratum below the first Wilcox, and termed the second Wilcox. There was little sand in this stratum, and the term "second Wilcox" may have been inaccurate, but it was tagged on the principal producing formation of Bowlegs and remained. After much micropaleontological study, it is apparent that most of the Bowlegs oil came from the dolomitic formation, so the finding of oil in another dolomitic formation at Pearson does not necessarily establish a precedent.

Broadly considered, the fate of any lime or dolomitic pool is governed by its pore space. The pore space furnishes chambers for the accumulation of oil, and the erratic nature of lime fields is due strictly to quick changes in porosity which are not experienced in pools which furnish their oil production from sands. The Hunton lime furnishes abundant examples of this in fields where wells which have an initial output of 1,000 bbls. daily will be offset by holes which are absolutely dry.

In the central Oklahoma territory, the further south the drill has explored, the thicker section of Viola limestone has been encountered. While in the Greater Seminole area, the Viola has a thickness varying from 20 to 70 feet, when the Pearson area is reached, this section increases considerably. The largest section of Viola which has been discovered in this region was found in the dry hole drilled by the Pierce Petroleum Co., NE cor. SW, Section 30-7-4, 1¼ miles east of the Indian Territory Illuminating Oil Co.'s Sullivan well. The Pierce dry hole had an interval of 293 feet from the top of the Viola to the top of the Wilcox sand. It is possible that a portion of this interval was Simpson sand, but allowing that 40 feet of it might be Simpson, it still leaves the Viola section amounting to 218 feet, a very interesting development. A dry hole drilled northeast of the Sullivan well had a Viola section of 135 feet; and the Prairie Oil & Gas Co.'s dry hole in Section 25-7-3, a quarter mile north of the Sullivan well had a 115-foot section of Viola.

Higher Structurally

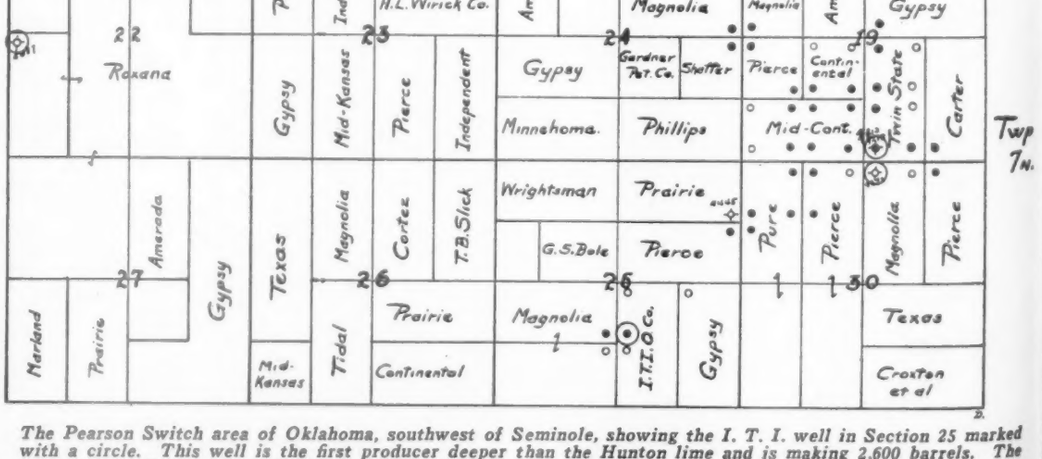
The structural position of the Sullivan well shows that it is 93 feet higher on the top of the Viola than the Prairie dry hole to the north, and that it is 24 feet higher than the dry hole in the NE cor. SW Section 30-7-4.

To the west there is a dry hole drilled in the NW cor. SW Section 22-7-3 by the Roxana Petroleum Corp. which had a total depth of 5,087 feet. This was a Wilcox sand test, and its failure establishes a severe dip between it and the Sullivan well. It is probable that before the formations dip (running westward) there will be a region which will at least remain constant in position and probably higher than the Sullivan well, and at this time, available data indicate that the westward trend contains the most logical possibilities.

Marked with circles on the map accompanying this story, there are five pre-Hunton dry holes. The Roxana test in Section 22; the Prairie test in Section 25, another failure drilled by the Roxana in Section 13 and the Pierce dry hole in Section 30-7-4. The Twin State Oil Co.'s well, SW cor. SE Section 19-7-4 was a failure in the Viola lime at 4,213 feet, and was plugged back to the Hunton from which it is still producing. The Magnolia well immediately south of it, was a total failure at a depth of 4,273 feet. The Roxana well in Section 22-7-3 had a total depth of 5,087 feet, while the Prairie failure in 25-7-3 was drilled to 4,445 feet. The Pierce dry hole in Section 30-7-4 was drilled to 4,705 feet before being abandoned.

There is ample room for a pool in the region around the Sullivan well, and the question of origin will be of secondary value if the run tickets show good possibilities. Viola or Wilcox will cause little arguments if subsequent drilling indicates that profits will prevail from this operation.

PEARSON SWITCH WELL GETTING PRODUCTION BELOW HUNTON LIME



The Pearson Switch area of Oklahoma, southwest of Seminole, showing the I. T. I. well in Section 25 marked with a circle. This well is the first producer deeper than the Hunton lime and is making 2,600 barrels. The four other wells marked with circles, are wells which have found the formations below the Hunton to be dry.

New Pools in Ranger and Wichita Falls

Coleman and Geraldine Townsite Report Discoveries. Panhandle and North Texas Production Declines 5,029 Bbls.

By James H. Dameron
Fort Worth Bureau, The Oil and Gas Journal

FORT WORTH, Tex., Feb. 13.—Indications of two new pools, one in the Ranger district and the other in the Wichita Falls district, featured the week in those areas while the Panhandle's interest was centered around the Bowers area in Gray County.

Production in the three districts showed a decline of 5,029 bbls. when each district reported losses in daily average. The sharpest drop was in Ranger district production. Brown County lost heavily in that area when the new production in the Pandem-Hutton area failed to hold fairly steady. Shackelford also showed a decline as a result of the decline in new flush production in the Cook Ranch Pool.

Twelve miles northeast of Coleman, Roth and Faurot have opened a new sweet crude pool with their No. 2 Sealy and Smith, Section 19, G. H. & H. Survey. It is a 75-bbl. well from sand at 2,916-24 feet and the crude tests 41 gravity. The well will probably be deepened. No. 1, a gas well, is being deepened, and No. 3 is being drilled.

Southeast of Coleman, Smith and associates' No. 1 Breneke was completed as an 80-bbl. well from pay at 1,850-57 feet.

Developments in the Norris Pool area did not live up to the fondest expectations. Eastland Oil Co.'s No. 1-B Morris had the sand at 1,996-2,002 feet and made 276 bbls. initially. The discovery well was a 500-bbl. producer. No. 1-B made 239 bbls. the second 24 hours and 213 bbls. the third 24-hour period.

Gwinnup and Bradstreet's No. 1 Morris, the northeast extensioner of the pool, looks good for a 40-bbl. pumper. The well was given a 5-quart shot at 1,988-94 feet and is estimated good for 40 bbls. daily.

Cook Ranch Pool

Only one well was completed in the Cook Ranch Pool last week by the Marland Oil Co. and Roeser and Pendleton and the chief interest in that area at present are the extension wells. No. A-1-62 is drilling 1½ miles north of the pool. Last reports were to the effect the well was underreaming at 1,100 feet and the pay is expected around 1,200 feet. One-fourth of a mile to the northwest, No. A-40-84 is drilling at 400 feet.

Prairie Oil & Gas Co.'s No. 2 Long extended production northeast in the Cross Plains area. The well had the sand at 1,694-1,710 feet and was shot with 40 quarts. It responded making 50 bbls. daily.

In the Ramsower Pool, Eastland County, Belva Oil Co.'s No. 3 Good is making 40 bbls. per hour from the Ranger sand at 3,714-18 feet. The well is being drilled deeper slowly. Unusual speed in drilling was made in this well for a while. It was an old abandoned hole and when redrilled as much as 100 feet of hole was made in 15 minutes. But when the bottom of the old hole was reached drilling was slowed up. C. M. Root's No. 2 Thorp, in the same pool, is extending production 1,300 feet. The well is in the Ranger sand and showing for a good well. Unverified reports give it a production of around 1,000 bbls.

New Pool in Archer

Wichita Falls district was enlivened by the opening of a new pool in Archer County and a lease trade. G. Gohlke's No. 1 L. F. Wilson, Grayson County School Lands in Archer County near the townsite of Geraldine, is estimated to be a 50-bbl. well on the pump from sand topped at 1,550 feet.

The well is in wildcat territory and stimulated activity in that immediate section. It has also started up a small drilling campaign around the well. To the west of the discovery well and in the SE cor. of the north 20 acres of Block 27, G. C. S. L. Survey, Fain and McGaha Oil Corp. have staked a location. To the northeast, D. O. Johnson's No. 1 Wilson, in the NE cor. of Block 26, G. C. S. L. Survey, is drilling. Gohlke and associates' No. 3 Wilson will be located in the SE cor. of Block 235, Geraldine Townsite, north of the discovery well. Acreage in that new area has been changing hands rather rapidly and indications are that several other locations will be made in the next few days. J. A. Gardner and Lee Wilson have made a location to the west and in Block 234, Geraldine Townsite. It will be a direct west offset to the discovery well.

The one trade of importance made during the past week in Wichita Falls district was the sale of a producing property by the Marland Oil Co. Jake Hamon, Jr., purchased the Thomas lease northeast of Archer City from the Marland company for a price reported to be $55,000 cash. The property is a 70-acre lease with 11 wells on it making 55 bbls. daily. Last week Wichita Falls district reported a $100,000 deal.

WILDCAT OPERATIONS IN PANHANDLE

Week Ending February 11, 1928

Company, Well, Farm, Name, Section and Block—	Remarks—
ARMSTRONG COUNTY	
United Oil & Trust Co.'s No. 1 J. P. Heck, Sec. 162, Blk 4, H. & G. N. Sur.	Drlg. lime, 3,500 ft.
BAILEY COUNTY	
Gibson Oil Co. et al's No. 1 Webb Miller, NE cor. Sec. 15, League 186, Swisher County school land	Rig.
Humble O. & R. Co.'s No. 1 W. H. Fuqua, C E ½ Sec. 117, Blk. A. Melvin, Blum & Blum Sur.	Set. 6-in., 3,078 ft; drlg., 3,700 ft.
BRISCOE COUNTY	
C. S. Rice's No. 1 J. C. Anderson, SE cor. NW NW, Sec. 22, Blk. B-3, B. S. & F. Sur.	S.D., 1,620 ft.
CARSON COUNTY	
Amarillo Oil Co.'s No. 1 E. S. Polling, C NE of N 80 acres of NE, Sec. 12, Blk. Y-2, B. & B.	Location.
Amatex Dev. Co.'s No. 1 E. S. Polling, Sec. 22, Blk. 2-Y,	T.A., 2,110 ft.
Empire G. & F. Co.'s No. 1-A Texas Co. fee, C NE, Sec. 60, Blk. 4, I. & G. N. Sur.	Drlg., 350 ft.
Marston Oil Co.'s No. 1 J. L. Noel	Drlg., 2,820 ft.
Empire G. & F. Co.'s No. 1 White Deer Inv. Co., C SE of Sec. 51, Blk. 4, I & G. N.	Location.
The Texas Company's No. 2 C. R. Garner	25,000,000 ft. gas, 2,300-25 ft; S.D., 2,425 ft.
The Texas Co.'s No. 1 W. H. Cobb, NE SE SE, Sec. 202, Blk. 3, I. & G. N. Sur. (Lease S 100 A SE)	Spudding.
CASTRO COUNTY	
Colorado O. & R. Co.'s No. 1 M. Slemmons, SW cor. Sec. 73, Blk. M-17, B. S. & F. Sur.	Rig blown down.
Mystery Oil Co.'s No. 1 J. I. Crum, SE cor. NE Sec. 333, Blk. M-6, S. K. & K. Sur.	S.D., 510 ft. for csg.
CHILDRESS COUNTY	
Hoover & Calloway's No. 1 O. L. Tucker, Sec. 736, Haggard Sur.	Spudded and S.D.
C. L. Sloane et al's No. 1 B. P. Smith, Sur. 49, F. P. Knott lands	Set 6-in., 2,902 ft; S.D., 3,745 ft.
COTTLE COUNTY	
Exploration Co.'s No. 1 Richards	Spudded and S.D.
DALLAM COUNTY	
Wood Bros. et al's No. 1 Capitol Synd., Sec. 19, Blk. 17.	Hole full wtr., 4,007-4,127 ft; U.R., 4,240 ft.
Marland Oil Co.'s No. 1 A. M. James, C SW W ½ Sec. 21, S. H. McElreath Sur.	U.R. 6-in. csg., 3,445 ft.
Marland Oil Co. et al's No. 1 Capitol Synd., Sec. 36, Blk. 18, Capitol Synd. land	S.D., 4,196 ft.
DONLEY COUNTY	
A. T. Drlg. Co.'s No. 1 F. E. Harrington, Sec. 39, Blk. 3-C	1,200 ft. wtr., 3,115-22 ft; show gas, 3,140-60 ft; dry G.W., 3,200-93 ft; S.D., 3,493 ft.
FLOYD COUNTY	
Explin. Co.'s No. 1 S. H. Boone, C. C. H. Johnson Sur.	Spudded and S.D.
Explin. Co.'s No. 1 Land & Cattle Co.	S.D., 730 ft for orders.
Hoffer Oil Corp.'s No. 1 Nelson	Spudded and S.D.
GRAY COUNTY	
Archer Blake's No. 1 Turneaux, SW cor. Sec. 111, Blk. B-2	S.D., 255 ft.
Bay Shore Oil Co.'s No. 1 C. W. Bradford, Sec. 143, Blk. 2-B	T.D., 2,666 ft; S.L.M. shot with 10 qts. to loosen bit and 8-in. collapsed; S.D., 2,795 ft.
Biggs et al's No. 1 Morse, SW cor. Sec. 3, Blk. 26, H. & G. N. Sur.	Rig.
Cole O. & G. Co.'s (was Magdalene Oil Co.'s) No. 1 J. E. Williams, Sec. 17, Blk. 1	S.D., 3,860 ft.
Danciger O. & R. Co.'s No. 7 W. Jackson, Sec. 88, Blk. B-2, H. & G. N. Sur.	3,000 ft T.D.; making 5,000,000 ft. gas from 2,779-3,000 ft. and 5 bbls. oil; stdzng., 3,000 ft.
Danciger O. & R. Co.'s No. 9 W. Jackson, NW cor. NE NW, Sec. 88, Blk. B-2	Drlg., 400 ft.
Danciger O. & R. Co.'s No. 10 W. Jackson, NE cor. NW NW, Sec. 88, Blk. B-2	Drlg., 200 ft.
Danciger O. & R. Co.'s No. 1 W. Crank, SW cor. NW, Sec. 163, Blk. 3, I. & G. N. Sur.	Location.
Danciger O. & R. Co.'s No. 1 A. Chapman, SW cor. NW, Sec 7, Blk. 26, H. & G. N. Sur.	Drlg., 650 ft.
Danciger O. & R. Co.'s No. 1 C. W. Bradford, NE cor. SE, Sec. 123, Blk. B-2, H. & G. N. Sur.	Drlg., 1,270 ft.
Danciger Oil Co.'s No. 1 J. S. Morse, SE cor. NE SW, Sec. 2, Blk. 26, H. & G. N.	Location.
Donley Gray Oil Co.'s No. 1 J. W. Gordon, Sec. 79, Blk. 3	Wtr., 3,380 ft. and 3,420 ft; show oil; H.F.W., 3,650 ft; S.D., 3,870 ft.
Delaney et al's No. 2 Jackson	3,000,000 ft. gas, 2,590 ft., increased to 11,000,000 ft. at 2,700 ft; drlg., 2,994 ft; show oil, 3,850-77 ft; T.D., 3,054 ft; P.B. to 3,025 ft; had 1,500 ft. salt wtr., 3,053-54 ft; shot with 120 qts., 2,977-3,025 ft; swbd. 75 bbls. 1st 24 hrs; now S.D.
Delaney et al's No. 3 W. Jackson, SE cor. NE SW, Sec. 88, Blk. B-2	Drlg., 600 ft.
Delaney et al's No. 6 Jackson, SW cor. E half, SW Sec. 88, Blk. B-2, H. & G. N. Sur.	Drlg., 1,105 ft.
Edwards et al's No. 1 E. J. Case, NE cor. Sec. 182, Blk. B-2, H. & G. N. Sur.	70,000,000 ft. gas, 2,512-2,630 ft; drlg. by bit, 3,028 ft; 1,000 ft. oil in hole; drlg. by whipstock.
Empire G. & F. Co.'s No. 1 A. Barrett, C SW, Sec. 132, Blk. 3, I. & G. N. Sur.	Drlg., 600 ft.
Empire G. & F. Co.'s No. 1 E. J. Case, C NE, Sec. 180, Blk. B-2, H. & G. N. Sur.	Drlg., 700 ft.
Empire G. & F. Co.'s No. 1 S. A. Cobb, NW cor. NE, Sec. 64, Blk. 25, H. & G. N. Sur.	Drlg., 400 ft.
Empire G. & F. Co.'s No. 1 C. A. Bell, C SE, Sec. 134, Blk. 3, I. & G. N. Sur.	Drlg., 780 ft.

(Continued on Page 134)

Estimated Daily Average Production
NORTH CENTRAL TEXAS
Week Ending February 11, 1928

Panhandle District

Carson County	7,395
Gray County	21,965
Hutchinson County	49,415
Moore County	.....
Potter County	30
Wheeler County	1,110
Total this week	79,915
Total last week	80,605
Decrease	690

Wichita Falls District

Archer County	20,012
Baylor County	82
Clay County	505
Cooke County	3,723
Jack County	1,278
Montague County	9,437
Throckmorton County	1,043
Wichita County	26,388
Wilbarger County	10,273
Young County	9,207
Total this week	81,948
Total last week	83,095
Decrease	1,147

Ranger District

Brown County	12,450
Callahan County	3,910
Coleman County	1,675
Comanche County	1,300
Palo Pinto County	465
Ranger County	8,469
Shackelford County	6,850
Stephens County	8,596
Total this week	43,715
Total last week	46,907
Decrease	3,192
Grand total this week	295,578
Grand total last week	210,607
Decrease	5,029

Gray County Completions

An unusual number of completions were reported from the Panhandle and reports from that district were colored by the closing of a $1,000,000 lease deal. Eight oil wells were completed with a combined flush production of 2,453 bbls., most of those were in Gray County. Four gas wells had a combined production of 163,000,000 feet of gas. Only one failure was reported and that was a 4,000-foot duster in Hartley County.

Magnolia Petroleum Co.'s No. 1 Bowers, SE cor. NW, Section 63, Block B-2, H. & G. N. Survey, and on the eastern edge of the Bowers Pool, is the most interesting test in that area. It hit the granite wash pay somewhat high and is making 10 bbls. per hour from 2,853-55 feet. The well is being deepened slowly. The well is the north offset to the Midwest Exploration Co.'s No. 1 Bowers, which is the farthest east producer and came in making better than 600 bbls.

During the past week several deals for the acquisition of gas acreage are reported to have been started. There is very little proven or semiproven gas acreage held by independent operators. Most of that acreage is held under lease by major companies who have gas transmission lines out of Panhandle or who have affiliated companies with gas trunk lines running out of the field.

One of the largest royalty deals in the history of the Panhandle was closed when Joe B. Bowers sold one-half interest in the mineral rights of his Gray County ranch for $1,000,000. The Bowers Pool was discovered on that ranch. The purchase was made by Frank Buttram, P. E. Brittain, T. H. Vaughn, A. Apple, D. W. Ohearn, Irving Perrine and L. H. Pritchard, all of Oklahoma City, Okla. Part of the purchase price was cash and the remainder will be in oil.

Mineral rights cover 3,200 acres described as Section 120, 91, 92, 93 and 89, in Block B-2, H. & G. N. Survey. The production from the ranch is around 8,500 bbls. at present with nine wells drilling. Crude from this pool is the

highest gravity in the Panhandle, testing around 44 gravity.

TEXAS PANHANDLE COMPLETIONS

Carson County

Navajo Oil Co.'s No. 1 E. S. Polling. Section 22, Block 2-Y, was drilled to a total depth of 2,712 feet and had an initial production of 50,000,000 feet of gas. This well found the first gas at 2,120 feet in lime.

Gray County

Danciger Oil Co.'s No. 8 W. Jackson. Section 88, Block B-2, was drilled to a total depth of 3,072 feet and flowed 1,090 bbls. of oil the first 24 hours from pay topped at 2,900 feet. This well has averaged 700 bbls. per day during the week. Lefors Petroleum Co.'s No. 1 J. M. Shaw, Lefors Townsite, had an initial production of 45,000,000 feet of gas from pay topped at 2,070 to 2,620 feet, and was drilled to a total depth of 2,650 feet. Midwest Exploration Co.'s No. 1 J. B. Bowers, Section 63, Block B-2, was drilled to a total depth of 3,124 feet. The well had a showing of oil at 2,955-60 feet and topped the granite wash pay at 3,054-60 feet. The well swabbed 280 bbls.

Phillips Petroleum Co.'s No. 2 H. M. Davis, Section 86, Block 3, in the old Wilcox-Pampa Pool, was drilled deeper to 3,220 feet. Granite wash was encountered at 3,213 to 3,220 feet, and the well is making 200 bbls. Shamrock Petroleum Co.'s No. 1 J. B. Back, SE NW SW, Section 44, Block 25, topped the pay at 2,935 feet to 3,204 feet, and had an initial production of 20,000,000 feet of gas. Skelly Oil Co.'s No. 2 W. Jackson, Section 88, Block B-2 was drilled to a total depth of 3,105 feet. The well flowed and swabbed 140 bbls. at 3,035 to 3,037 feet.

Hartley County

Eslick and others' No. 1 J. R. Irving, Section 13, Block 13, was dry and abandoned at 4,000 feet.

Hutchinson County

Empire Gas & Fuel Co.'s No. 7 Johnson Brothers-B topped the pay at 2,853 feet and bottomed at 2,860 feet, with an initial production of 200 bbls. First National Oil Co.'s No. 2 E. Cockrell was drilled to a total depth of 3,050 feet. After a 120-quart shot at 2,990 to 3,040 feet the well made 100 bbls. Phillips Petroleum Co.'s No. 1 J. M. Sanford (Chap) was shot with 70 quarts at 2,941 to 2,965 feet and had an initial production of 350 bbls. Ryan Consolidated Oil Co.'s No. 1 E. Cockrell had an initial production of 85 bbls. after a shot of 140 quarts at 2,940 to 2,985 feet.

Wheeler County

Watchorn Oil & Gas Co.'s No. 2 Binkley & Caine, Section 92, Block 24, was drilled to a total depth of 1,952 feet and had an initial production of 48,000,000 feet of gas, 425 pounds rock pressure, from pay topped at 1,890 to 1,952 feet.

WICHITA FALLS DISTRICT

Archer County

Humble Oil & Refining Co.'s No. 1 Wilson-F, was dry and abandoned at 1,544 feet. Gwynn's No. 1 Carter was dry and abandoned at 1,250 feet. Roberts Oil Corp.'s No. 5 Garvey topped the pay at 759 feet and bottomed at 771 feet and had an initial production of 20 bbls.

Cooke County

J. C. McFarland's No. 3 M. K. & T. is a 10-bbl. initial producer in pay topped at 1,318 to 1,349 feet.

Grayson County

Simpson-Fell Oil Co.'s No. 2 Wall was a duster at 1,385 feet and has been abandoned.

Jack County

Christie Brothers No. 3 Jones estate was dry and abandoned at 2,430 feet. J. M. Ellis, Jr.'s No. 1 Ellis and others made 5 bbls. in pay topped at 492 to 494 feet. Atlantic & Ellis' No. 1 Hoefle was dry and abandoned at 611 feet and J. T. Owens' No. 1 Wilson has been abandoned at 802 feet as dry.

Montague County

Bridwell & Heydrick's No. 1 Howard was dry and abandoned at 1,820 feet. Bridwell & Heydrick and others' No. 4 McGaughy is making 13 bbls. after a 5-quart shot at 1,245-60 feet. Carter & Rycade Oil Corp.'s No. 4 Cunningham topped the pay at 901 feet and bottomed at 930 feet and had an initial production of 60 bbls. Continental Oil Co.'s No. 27 Maddox-A made 48 bbls. from pay at 916 to 930 feet. Oil Operators Trust's No. 3 Boulden made 33 bbls. from pay at 819 to 828 feet.

Wichita County

Atlantic Oil Producing Co. and others' No. 1 Barton, made 21 bbls. at 1,746½ to 1,748 feet. Clark and others' No. 5 W. T. Waggoner, had an initial production of 70 bbls. at 961 to 964 feet. Dale Oil Corp.'s No. 6 K. & K. B. had an initial production of 10 bbls. at 1,842 to 1,847½ feet. Holbrook & Wood's No. 1-D Kemp & Kempner was dry and abandoned at 1,826 feet. Jennings & Conyers' No. 1 Jennings had an initial production of 36 bbls. at 1,500 to 1,511½ feet. Magnolia Petroleum Co.'s No. 12 Watkins-A was dry and abandoned at 1,980 feet.

Wilbarger County

Fain-McGaha Oil Corp.'s No. 1 Waggoner-M had an initial production of 150 bbls. at 2,354-68 feet. Same company's No. 1 Waggoner-O was junked at 1,317 feet. Phillips Petroleum Co.'s No. 11 Waggoner-T topped the pay at 1,868 feet and bottomed at 1,878 feet and made 70 bbls. on the pump. Same company's No. 1 Waggoner-GG pumped 22 bbls. at 2,293-95 feet.

Young County

Alexander and others' No. 1 Johnson had an intial production of 31 bbls. at 570-75½ feet. Pennell and others' No. 1 Johnson was junked and abandoned at 640 feet. It was estimated this well was good for 5 bbls. at 577-585 feet. Wichita Production Co.'s No. 3 Willson was dry and abandoned at 1,050 feet. Williams and others' No. 1 Casey was also dry and abandoned at 750 feet.

RANGER DISTRICT COMPLETIONS

Brown County

Gilman & McMurray's No. 2 Hickman after a 20-quart shot at 1,241-62 feet made 469 bbls. Mexana Oil Co.'s No. 2 Burris was dry and abandoned at 1,428 feet. Mitcham's No. 1 Keeler had an initial production of 27 bbls. in pay topped at 1,030 feet and bottomed at 1,035 feet. Mitchell's No. 1 Allcorn was dry and abandoned at 1,163 feet. Syndicate Oil Co.'s No. 1 Bush was dry and abandoned at 1,262 feet. Van Bibbler & Lehman's No. 5 Evans made a 2-bbl. producer at 620-72 feet.

Callahan County

Garner Valley Oil Co.'s No. 1 Hatchett was dry and abandoned at 812 feet. Pardee's No. 1 Snyder was also a duster and abandoned at 1,209 feet. Prairie Oil & Gas Co.'s No. 2 Long made 50 bbls. after a 40-quart shot at 1,694-1,710 feet.

Coleman County

Smith and others' No. 1 Breneke had an initial production of 80 bbls. in pay topped at 1,850-57 feet.

Comanche County

Swoveland and others' No. 1 Chapman was dry and abandoned at 2,825 feet. Trojan Oil Co.'s No. 1 Barnes has been temporarily abandoned at 3,610 feet.

Eastland County

Mook-Texas Oil Co.'s No. 2-B Casey had an initial production of 140 bbls. at 3,020-31 feet. Schemmen Production Corp.'s No. 1 Hamilton made 10 bbls. after a 50-quart shot at 3,112-30 feet. Teatsorth and others' No. 1 Bourland was shot with 40 quarts at 3,543-46 feet and made 15 bbls. Independent Oil & Gas Co.'s No. 1 Been was dry and abandoned at 3,685 feet. McLester Oil Co.'s No. 5 Thorp had an initial production of 650 bbls. from pay topped at 3,673 feet and bottomed at 3,681 feet. Texas & Pacific Coal & Oil Co.'s No. 1 Cochran was dry and abandoned at 3,073 feet.

Shackelford County

Big State Oil Co.'s No. 4 Russ-Webb was dry and abandoned at 1,227 feet. Hughes' No. 1 Dillingham was dry and abandoned at 765 feet. Humble Oil & Refining Co.'s No. 4 Davis made 30 bbls. of oil and 30 bbls. of water at 1,738-41 feet. Milham's No. 1 Fukusshima was dry and abandoned at 2,945 feet. Roeser & Pendleton and Marland Oil Co.'s No. 68-A-60 topped the pay at 1,195 feet and bottomed at 1,212 feet and the well made 40 bbls.

Stephens County

Hickok Producing Co.'s No. 1 Hamil made 210 bbls. at 4,053-57 feet. Mid-Texas Oil Co.'s No. 5 Cunningham made 120 bbls. oil and 175 bbls. water in pay at 4,073-77 feet. McKinnon and others' No. 1 Langford was dry and abandoned at 2,400 feet.

GOVERNMENT'S PRELIMINARY REPORT CONFIRMS OIL PRODUCTION ESTIMATE

Prepared under supervision of G. R. Hopkins, head of statistics section, Petroleum Economics Division; H. H. Hill, chief of division.

According to preliminary figures, issued by the Bureau of Mines, Department of Commerce, compiled from reports of companies that operate gathering lines, 894,435,000 bbls. of crude petroleum was produced and transported from producing properties in the United States during 1927. The final figure of total production, that is, oil brought to the surface, which will include the quantity of petroleum consumed for fuel on the leases and the net change for the year of stocks held on producing properties, obtained from the annual canvass of producers, may amount to 903,000,000 bbls. This total is by far the highest figure ever recorded, being an increase over 1926 of 17 per cent.

World production of petroleum during 1927 totaled 1,252,145,000 bbls., according to a preliminary estimate. The most important events of the year in petroleum production from an international standpoint were increased production in the United States, Venezuela, Colombia, and Russia, and the continued decline in Mexican output.

The domestic petroleum situation in 1927 was characterized by a continuously large production of crude, which resulted mainly from the record-breaking output of the Seminole district. This condition is best illustrated by an analysis of all oils, which shows that total stocks of all oils increased 64,087,000 bbls. during 1927 as compared with a decrease of 24,764,000 bbls. in 1926. Wildcatting and development work in general were at a comparatively low level throughout the year as illustrated by the decline in number of completions from 19,013 in 1926 to 14,680 in 1927.

Practically all of the increase in output in 1927 occurred in the Mid-Continent district. California, the Texas Gulf Coast, and the Appalachian district all showed increases in output over the previous year, but these increases were relatively unimportant compared with that of the Mid-Continent. Production in Oklahoma in 1927 increased approximately 100,000,000 bbls. over 1926 and raised this State to the position of the leading producing state for the first year since 1922. The major portion of the increase in Oklahoma district was in the Seminole area, which is estimated to have produced 135,000,000 bbls. of crude petroleum in 1927 as compared with 11,000,000 bbls. in 1926. The area of next greatest importance in 1927 was West Texas, comprising Crane, Upton, Pecos and Winkler Counties. The most spectacular pool from the standpoint of size of wells in this area was the Yates Pool in Pecos County, although, due to restrictive agreements, the output of this field was kept at a relatively low level.

Stocks of crude petroleum east of California increased from 278,264,000 bbls. on hand January 1 to 351,646,000 bbls. at the end of the year. This increase was all light oil as stocks of heavy crude were drawn on during the year. Stocks of light or refinable crude in California suffered a material decline in 1927, but heavy stocks showed a small increase.

Imports of crude petroleum registered a slight decline from 1926, with the decrease in imports of Mexican oil being nearly compensated by increased receipts of oil from South America. Little change was recorded in exports of crude petroleum or in shipments of California oil through the Panama Canal to eastern ports in the United States.

Refined Products

Runs to stills of crude petroleum in 1927 amounted to 828,514,000 bbls. as compared with 779,264,000 bbls. in 1926, a gain of 6 per cent. Of the 1927 total, 48,701,000 bbls. was foreign crude, which represents a small increase over 1926. A further increase in gasoline percentage recovery was made in 1927, when the equivalent of 39.9 per cent of the total runs to stills was produced as gasoline as compared with 38.5 per cent in 1926. This increase was undoubtedly due to the wide use of high-grade Seminole crude rather than to improved methods of recovery. The percentage of the total gasoline production derived from cracking decreased in 1927, reflecting the abundance of low-priced crude available for skimming purposes.

Gasoline production in 1927 totaled 330,667,000 bbls., an increased over 1926 of 10 per cent. Indicated domestic demand amounted to 297,928,000 bbls., an increase of 14 per cent over 1926. Gasoline stocks, unlike stocks in general, were reduced materially in 1927. The low point was reached on October 31 at 29,550,000 bbls., which was considerably below the low point of 1926. Days' supply was consistently reduced as consumption increased and reached a low point of 28 on September 30.

The production of kerosene, lubricants, and wax decreased in 1927 but the indicated domestic demand of the last registered a material increase. The output of gas oil and fuel oil was greater, due to the increased throughput, as was also that of both coke and asphalt.

Combined exports for all refined products in 1927 totaled 125,696,000 bbls. as compared with 116,087,000 bbls. in 1926. Imports of refined products amounted to 13,352,000 bbls., a material decrease from the previous year.

Natural-Gas Gasoline

According to preliminary figures, which are compiled from monthly reports, the production of natural-gas gasoline in 1927 was 1,627,600,000 gallons, or an increase over the 1926 preliminary figures of 20 per cent. Stocks at the beginning and end of the year were 19,100,000 and 30,800,000 gallons, respectively, an increase of 11,700,000 gallons, which, when subtracted from production, gives total deliveries as 1,615,900,000 gallons. This total was distributed as follows: To refineries in tank cars for use in blends, 1,209,264,000 gallons, or 75 per cent; mixed with crude and run through pipe lines of refineries, 141,498,000 gallons, or 9 per cent; blended to motor fuel at plants, 34,600,000 gallons; sold to jobbers for blending to motor fuel, 9,600,000 gallons, leaving 220,938,000 for losses and quantities not as yet accounted for.

HUMBLE APPEAL HEARD ON INGLESIDE PROJECT

HOUSTON, Tex., Feb. 14.—Hearing of the Humble Pipe Line Co.'s appeal from the recent decision of the District Court of Austin enjoining the company from laying a pipe line across Corpus Christi Bay to deep water loading racks has ended in the Third Court of Civil Appeals and decision will be rendered later. In the meantime the company is proceeding with the survey for the proposed Lytle-to-Webster line which probably will be built in the event the company is permanently restrained from the other project.

EMPIRE P. L. STATEMENT

The Empire Pipe Line Co.'s statement of runs, shipments and stocks for Kansas and Oklahoma, in January is as follows: Pipe line receipts 899,767.83 bbls., daily average 29,024.77 bbls.; deliveries, 965,800.70 bbls.; daily average, 31,154.86 bbls.; stocks, Jan. 31, 4,334,405.24. Stocks on the last day of December were 4,400,438.11 bbls., indicating a withdrawal of 32,967 bbls. of crude oil in January.

New Production Peak in Hendricks

Makes 118,024 Bbls. in 24 Hours. Tank Car Shipments Show Sharp Increase. Deep Lime Well in Howard County

By James H. Dameron
Fort Worth Bureau, The Oil and Gas Journal

FORT WORTH, Tex., Feb. 13.—Winkler County, with a new peak production for the Hendricks Field, and several noteworthy developments in the field, was the most closely watched area in West Texas last week. For the 24-hour period ending Monday morning Hendricks climbed to a new peak of 118,024 bbls. from 69 wells, some of which are still pinched in far below their possibilities.

Several more wells have been affected by water within the past week and the total number of wells affected two days ago was 26. Sunday water showed in Murchison Oil Co.'s No. 1-C in Section 35, and Cranfill & Reynolds' No. 1 Hendricks is showing 6 per cent water and b.s. Magnolia company's No. 5 Ida Hendricks, NW of SE of NE Section 29, Block B-5, is making 300 bbls. of fluid, 90 per cent sulphur water from 2,830 to 2,908 feet. On the west flank of the structure Southern Crude Oil Purchasing Co.'s No. 1-C Hendricks T-67, NE cor. of Section 33, Block B-5, is making 850 bbls. of fluid per day, 15 per cent water and b.s. Water encroachment was observed in the north part of the field early last week when Southern Crude Co.'s No. 1 T-88-A, SE cor. E half Section 44, Block 26, started showing 1 per cent water.

Topped Salt High

One of the developments of the field is Independent Oil & Gas Co.'s No. 1 E. W. Cowden, SE NW NW Section 36, Block B-5, topping the salt high. Salt was topped at this well at 952 feet, about 90 feet higher than the salt in the nearest well. Local salt conditions are not considered highly significant, however.

On up to the northwest about a mile and a half developments around Amerada Petroleum Corp.'s No. 1 J. B. Walton, SW NW Section 48, Block 26, were being followed closely. Amerada corporation's No. 1 Walton reports no change in development and is still shut down awaiting the arrival of a bailer. Southern Crude Oil Co.'s southwest offset is drilling ahead at 2,486 feet, showing gas. The well is being drilled with heavy mud in the hole.

In this area a large acreage deal is reported to be in the final stages of closing. Texas & Pacific Coal & Oil Co. have tentatively sold one-half interest in the west half of Section 38, Block B-5, to the Roxana Petroleum Corp. for a reported price of $100,000 cash and one free well. The acreage is one-half mile south of the Amerada well. The deal had not definitely been closed Monday.

Shipments Increased

Tank car shipments from Hendricks showed a sharp increase during January with the total shipments amounting to 1,036,000 bbls. Shipments during the first week in February were going out at an average rate of 33,000 bbls. daily. This crude is going to refineries on the Gulf Coast, inland refineries of Louisiana and Texas, and refineries in the northeast.

Steel storage is likewise increasing. Stocks on February 1 were around 3,100,000 bbls., with around 1,100,000 bbls. of room available. Approximately 1,250,000 bbls. of steel storage are being erected and the grading is being done for 350,000 bbls. additional tankage. Magnolia Petroleum recently purchased 10 more 80,000-bbl. capacity tanks for erection in Winkler County.

Texas & Pacific Railroad Co. plans to be in a position to move 140,000 bbls. daily from West Texas by April 1. Sidings will be built every 5 miles and a classification yard will be in operation by April in West Texas. Increased yard facilities affording a greater handling of tonnage and more rapidly are nearing completion in Fort Worth. At present the Texas & Pacific is estimated to be in a position to move around 50,000 bbls. daily from West Texas. Southern Pipe Line Co. is increasing its line capacity from Hendricks 12,000 bbls. by building an additional 6-inch line to Wickett.

Hendricks Output Up

Hendricks has been increasing steadily in production during the past week. Monday morning's gauges by companies are as follows:

Company—	No. Wells	Prod.
Atlantic Oil Producing Co.	5	18,289
Cranfill & Reynolds	3	5,788
Gulf Production Co.	6	13,086
Humble Oil & Refining Co.	6	14,668
Independent Oil & Gas Co.	7	7,602
Landreth Production Co.	3	8,592
Magnolia Petroleum Co.	4	4,951
Murchison Oil Co.	3	1,310
Pure Oil Co.	3	1,665
Republic Oil Co.	1	8,800
Roxana Petroleum Corp.	8	12,789
Southern Crude Oil Pur. Co.	14	12,739
Texon Oil & Land Co.	2	2,480
Turman & Maxwell	4	5,265
	59	118,024

Big Wells in Yates

Yates Pool finished the week with its customary number of big shallow wells. Production of the field was down during the week and more in conformity with the Yates pipe line outlet. There was little change in the water situation of the northwest part of the field. Humble company's No. 3 B. Smith in the NW cor. of Section 101 is showing an increase of water.

Another deep lime producer was completed in Roberts Pool of Howard County. Schermerhorn Oil Co.'s No. 1 Dora Roberts, NW cor. NE Section 57, Block 29, W. & N. W. Survey, flowed 1,500 bbls. in nine hours from lime pay at 2,963 to 3,000 feet. It is the third well in the pool discovered by the Magnolia Petroleum Co. more than three months ago.

Operators in the field have reached an agreement to shut in producers after tests to determine their production. This is due to the inadequate pipe line facilities for that area. Magnolia Pipe Line Co. has a 4-inch line into the pool and it is reported the Magnolia company will not produce a greater per cent of its own production than that which it takes from other producers. All three of the producers have shown themselves to be capable of producing better than 3,500 bbls. each.

Tests South of Big Lake

Two new tests are scheduled to start soon around the production opened 5 miles south of Big Lake by Skelly Oil Co. and Utah Southern Oil Co. in their No. 1 University, SE cor. Section 33, Block 8, Reagan County. The Skelly well will likely be shot again, according to field reports. It is now producing around 35 bbls. daily from 3,131-54 feet. The well was drilled to a total depth of 3,157 feet and into a small amount of water. It was plugged back and the water cut off. The two new locations were made by the Marland Oil Co. and the California Co. The California Co. staked the location for the south offset and Marland company is a mile and a half northwest in the SE cor. of the W half of Section 26, Block 8.

It is reported that the Marland company will start up two new tests in this area in the next 10 days. The reason for starting these tests is, if they are completed as produced, they will prove up 16 sections on which most of the permits expire in June of July. While a pool is believed to exist, it is not thought it will be a large one. General opinion is that the pool will be found to the west.

Runnels County Well

Late in the week interest shifted to Runnels County. Vacuum Oil Co., Ladd and others' No. 2 McMillian, 500 feet south of the first producer drilled in Runnels, has 2,000 feet of oil in the hole from pay at 2,514-16 feet. The well is being slowly drilled ahead. When the pay was topped it made three 15-bbl. heads during the first 24 hours. The discovery well is averaging around 75 bbls. on the pump. Tests to the south and southwest are being checked out of the picture from the same producing zone as the discovery well.

Production in West Texas registered a decrease of 385 bbls. last week despite the 12,000-bbl. gain of Winkler County. The losses came from Crane, Crockett, Howard, Pecos, and Upton Counties. Howard County showed a decline of 3,000 bbls. as a result of shutting in deep lime producers in the Roberts Field. Pecos had 7,000 bbls. pinched off of its average and the two combined cut deeply into West Texas' daily average.

ESTIMATED DAILY AVERAGE PRODUCTION OF WEST TEXAS
Week Ending February 11, 1928

Big Lake	21,753
Crane County	87,606
Crockett County	2,937
Ector County	15
Fisher County	238
Glasscock County	S.D.
Howard County	4,020
Jones County	1,203
Loving County	60
Mitchell County	3,364
Pecos County	44,014
Runnels County	71
Scurry County	45
Upton County	15,530
Winkler County	107,595
Total this week	288,451
Total last week	288,837
Decrease	386

WEST TEXAS
Daily Average Production by Leases, Week Ending February 11, 1928
Crane County

Company and Lease—	Wells	Bbls.
Church and others—		
University	1	76
Church & Weekley—		
University	3	1,016
Church & Fields—		
Duoil-University	1	117
Eastland Oil and Collett—		
University	8	4,703
Gulf Production Co.—		
All leases	64	19,296
Humble O. & R. Co.—		
University	13	5,187
Independen. O. & G. Co.—		
University-A	5	1,110
University-B	1	1,047
Landreth Prod. Corp.—		
Cowden-Anderson	14	9,073
Magnolia Petroleum Co.—		
University-Hardwicke	14	2,908
University-O'Keefe	12	1,079
State-Lasseter	3	149
Magnolia and others—		
University	4	74
Pecos Oil Co.—		
University	15	4,969
Prairie O. & G. Co.—		
University	5	319
State-Lasseter	6	*12,136
Simms and Atlantic—		
Universi.y-A	9	3,403
University-B	1	56
University-C	8	7,217
University-D	11	*6,574
University-E	1	192
Stidham & Thrasher—		
University	1	12
The Texas Company—		
University	1	190
University-Beasley	1	21
Tidal Oil Co. and others—		
University-B	2	51
University-C	1	32
University-E	1	85
University-F	7	*2,800
University-G	3	*465

Late News from the Field

OKLAHOMA

The Greater Seminole area produced 322,588 bbls. from 1,085 wells for the 24 hours ending Tuesday morning at 7 a. m. The production by pools was:

Little River	33,136
Bowlegs	94,510
Earlsboro	118,178
Seminole	57,877
Searight	18,887
Total, barrels	322,588

The Barnsdall Oil Co's No. 2 Ingram, NW cor. SW SW Section 1-9-5, swabbed 325 bbls. in 12 hours, from sand 4,598-99 feet.

In the Pearson Switch area of Pottawatomie County, the Indian Territory Illuminating Oil Co.'s No. 1 Sullivan, SW cor. NW SE Section 25-7-3, which opened a deeper sand two weeks ago, is decreasing, and made 1,863 bbls. on Monday of this week. The offset which went dead after the Sullivan well was brought in has been revived. It is Magnolia Petroleum Co.'s No. 1 Harper, SE cor. NE SW Section 25-7-3, and is now making 900 bbls. on the swab. This well was drilled in last November and had an initial output of 365 bbls. and was down to 300 bbls. when it stopped flowing. The Magnolia Petroleum Co.'s No 1 Crawford, NE cor. SE SW Section 25-7-3, is making 135 bbls. on the swab and will be put on air.

In the Stone Bluff region of Muskogee County, William McDougall's No. 1 Golf, SE cor. NW NW Section 21-17-15, found the Turkey Mountain sand 1,907-09 feet, and has made three or four flows of about 30 bbls. each. The oil is of 35 degrees gravity, and is the first Turkey Mountain production for this area.

The production of the larger wells in the Allen Pool follows: The Louisiana Oil & Refining Co.'s No. 1 Reed, NE cor. NE Section 18-5-8, 569 bbls.; No. 2 Reed 539 bbls.; No. 1 Punluste, SW cor. SW Section 7-5-8, 880 bbls. The Mid-Continent Petroleum Corp.'s No. 1 Fleet, SW cor. SW Section 7-5-8, is making 1,600 bbls. W. R. Ramsey's No. 1 Culley, in Section 18-5-18, is making 603 bbls. The above figures show the oil which was produced for the 24 hours ending Tuesday morning at 7 a. m.

WEST TEXAS

FORT WORTH, Tex., Feb. 14.—Vacuum Oil Co. and others' No 2 McMillan in Runnels County, located 500 feet south of No. 1 in the Domingo Diaz Survey, flowed and swabbed 40 bbls. in 30 minutes Monday afternoon from a penetration of 2 feet in sand topped at 2,514 feet and was shut down to build more storage. The well made 105 bbls. last night and looks like a good producer. Humble Pipe Line Co. is connecting up to the well and it will be drilled in today.

Southern Crude's No. 4 Ida Hendricks, Tract 67-C, in Section 33, Block B-5, Winkler County, started making water February 12, flowing 800 bbls., 3½ per cent water and b.s. Murchison Oil Co. and Cranfill Brothers' No. 3 Hendricks-B, SW cor. Section 35, also started showing 18 per cent water the same day while flowing 1,080 bbls.

GULF COAST

HOUSTON, Tex., Feb. 14.—Gulf Production Co.'s No. 18 McLean at Spindletop was brought in Tuesday morning flowing 1,800 bbls. daily from sand at 5,100 feet. Sun Oil Co.'s No. 1 Coit, also at Spindletop, came in Monday flowing 2,000 bbls. daily from sand at 4,999 feet.

University-H	2	30
University-I	8	*4,271
Total Church & Fields—McElroy Pools	223	86,757
Average per well		380

Miscellaneous Crane County

Company and Lease—	Wells	Bbls.
Gulf Production Co.—		
Waddell	1	27
Independent O. & G. Co.—		
Hughes	1	6
McMan O. & G. Co.—		
Hughes	2	64
Mariand Oil Co.—		
All leases	16	†593
The Texas Company—		
King	9	152
Union Land-F	1	7
Miscellaneous total	30	849
Grand total Crane County	258	87,606
Average per well		339

Pecos County

Company and Lease—	Wells	Bbls.
Allsman & Bell—		
Pecos River Bed	4	46
California Co.—		
Yates, Lease 1	7	5,295
Smith, Lease 3	8	2,913
Gulf Production Co.—		
All leases	10	5,725
Humble O. & R. Co.—		
M. A. Smith	5	2,653
M. A. Smith-B	3	889
Kirby Pet. Co. and Edson—		
J. H. Tippett	1	185
Mariand Oil Co.—		
Yates-A	10	913
Mazda and Savoy Oil Co.—		
M. A. Smith	1	140
McMan and Mariand—		
Yates	14	4,418
Mid-Kansas and Transcontinental—		
Yates-A	11	2,912
Yates-B	14	2,695
Yates-C	9	1,988
Yates-D	2	119
Yates-E	1	146
Smith-Taylor	6	5,355
Red Bank Oil Co.—		
Smith	2	480
Roxana Pet. Corp.—		
Tippett	6	4,211
Smith	3	905
Simms Oil Co.—		
Smith	5	2,026
Texon O. & L. Co.—		
Yates	2	0
Total Yates Field	123	44,017
Average per well		358

Winkler County

Company and Lease—	Wells	Bbls.
Atlantic O. P. Co.—		
Grisham-Hunter	1	2,984
Ida Hendrick	1	395
Ida Hendrick-D	2	*3,212
Grisham-Hunter-E	1	8,975
Cranfill & Reynolds—		
Ida Hendrick	1	5,206
Grisham-Hunter-B	1	225
Gulf Production Co.—		
T. G. Hendrick	7	10,771
Humble O. & R. Co.—		
Grisham-Hunter-4	3	*9,843
Ida Hendrick-B	3	*4,191
Independent O. & G. Co.—		
Grisham-Hunter	4	*5,185
Howe-B	1	4,404
Hendrick	1	46
Vardeman-B	1	392
Landreth Prod. Corp. and Fox—		
Grisham-Hunter	2	5,415
Ida Hendrick-A	2	2,974
Magnolia Pet. Co.—		
Ida Hendrick	5	2,812
Murchison and others—		
Grisham-Hunter	2	201
Grisham-Hunter-C	1	125
Grisham-Hunter-B	1	1,220
Republic Prod. Co.—		
Grisham-Hunter-A	1	7,620
Roxana Pe.. Corp.—		
Grisham-Hunter-D	1	*3,334
Roxana Pet. Corp. and others—		
Scarborough	1	20
Grisham-Hunter-A	1	*1,014
Ida Hendrick-C	5	*5,283
Ida Hendrick-B	1	*1,506
Southern Crude Co.—		
T-67 Hendrick-A	1	249
T-67 Hendrick-C	4	1,983
T-67 Hendrick-B	1	688
T-67 Hendrick-F	1	1,823
T-88 Hendrick-B	5	5,046
T-89 Grisham-Hunter-A	1	0
3-T-67 Grisham-Hunter	1	0
T-88 Hendrick-A	1	751
T-88 Hendrick-C	2	2,704
Texon O. & L. Co.—		
Grisham-Hunter-A	1	2,298
Grisham-Hunter-B	1	283
Pure Oil Co.—		
Grisham-Hunter	3	1,115
Turman and others—		
Ida Hendrick	4	3,301
Total Winkler County	72	107,595

*Production pinched in. †No. 2 shut in.

WEST TEXAS COMPLETIONS

Andrews County

Zweifel & Carter's No. 1 Cowden, C SE Section 18, Block A-52, Public School Lands, was dry and abandoned at 5,000 feet.

Crane County

Humble Oil & Refining Co.'s No. 1 University-B had a show of oil and sulphur water at 3,125-40 feet but the well was dry and abandoned at 3,180 feet.

Fisher County

The Texas Company's No. 1-A D. W. Stephens reached the top of the pay at 3,238 feet, was drilled to a total depth of 3,275 feet, and when put on the pump made 280 bbls

Howard County

Coyle-Concord Oil Co.'s No. 3 Dora Roberts, Section 156, Block 29, had a show of oil at 1,854-74 feet, was drilled to a total depth of 1,884 feet and after a 40-quart shot made 50 bbls. initial. Dixie Oil Co.'s No. 1 H. R. Clay was dry and abandoned at 3,347 feet. Magnolia Petroleum Co.'s No. 4 Sarah Hyman was drilled to a total depth of 1,620 feet with a show of oil at 1,595 to 1,616 feet. The well swabbed 5 bbls. but after a 60-quart shot swabbed 60 bbls. Owen & Sloan's No. 2 Dora Roberts, SW cor. SE Section 136, Block 29, topped the pay at 2,955 feet and bottomed at 3,005 feet. A swab was run and the well flowed 2,550 bbls. the first 24 hours, and after it was drilled deeper flowed 3,744 bbls.

WILDCAT OPERATIONS IN WEST TEXAS

Week ending February 11, 1928

Company, farm and location—	Remarks—
ANDREWS COUNTY	
George B. Calvin's (was Calvin & Belt's) No. 1 Ratliff & Bedford, C NE Sec. 16, Blk. A-54	Hole full fresh water 1,055 ft.; top salt 1,610 ft.; shut down 4,003 ft.
J. S. Cosden's No. 1 Ratliff & Bedford, C SE Sec. 8, Blk. 73, Public School Land	Top salt 1,585 ft.; shut down 4,116 ft.; will deepen.
Deep Rock Oil Co.'s No. 1 W. J. Harris, C SE Sec. 12, Blk. A-46, Public School Land, elev. 3,167 ft.	Hole full fresh water 1,050 ft.; top salt 1,690 ft.; drlg. 2,710 ft.
B. B. McKennon's (was Neff et al's) No. 1 J. S. Means, C SE Sec. 12, Blk. A-35, Public School Land	Set 8-in. 1,580 ft.; top salt 1,930 ft.; drlg. 2,880 ft.
BORDEN COUNTY	
Dixon Creek Oil Co.'s No. 1 Clayton & Johnson	Spudding.
Mariand Oil Co.'s No. 1 G. E. McDavid, C SW Sec. 156, Blk. 25, H. & T. C. Survey., elev. 2,310 ft.	Top lime 2,410 ft.; drlg. 2,530 ft.
Mariand Oil Co.'s No. 1 Alexander Murphy, C SW Sec. 66, Blk. 25, H. & T. C. Sur. (3,250-ft. test)	New location.
BREWSTER COUNTY	
Cowden & Bowser's No. 1 Jackson & Harmon	Shut down 310 ft.
J. M. Hickey's No. 1 Jackson & Harmon, NE cor. Sec. 182, Blk. 9, G. H. & S. A. Sur.	Shut down 910 ft.
Mid-Kansas O. & G. Co.'s No. 1 Turney, Sec. 77, Blk. 213, T. & St. L. Sur.	Fishing 2,760 ft.
Reese & White's No. 1 Kimbale, C NE Sec. 204, Blk. 9, G. H. & S. A. Sur.	Shut down 1,390 ft .
Van McPhail's No. 1 McIntyre, SE cor. Sec. 59, Blk. 352, 7 mi. S of Alpine	Drlg. 1,430 ft.
Wilcox & Anderson's No. 1 Gage, Sec. 8, Blk. 300, T. C. R. R. Sur.	Underreaming 1,901 ft.
COKE COUNTY	
W. H. Brown et al's No. 1 W. L. Foster, SE cor. Sec. 142, Blk. 2, H. & T. C. Sur., elev. 2,222 ft.	Run. 6-in. casing 3,180 ft.
Lipan Oil Co.'s No. 1 S. M. Conner, Sec. 71, Blk. 2, H. & T. C. Sur.	Show oil 1,224-34 ft.; shut down lime 3,317 ft.
Lipan Oil Co.'s No. 1 E. C. Rawlings, Sec. 390, Blk. 1-A, H. & T. C. Sur., elev. 2,750 ft.	Total depth 2,736 ft.; shut down.
CONCHO COUNTY	
Parks & Lawson's No. 1 Schultz	Show oil 925 ft.; shot with 40 and 30 qts.; no results; shut down 1,500 ft.
The Exploration Co.'s No. 1 Hartgrove, Blk. 240, J. Schouch Sur., elev. 1,718 ft.	Set 10-in. 760 ft.; shut down 940 ft.
Sartain Oil Co.'s No. 1 Evridge	Spudded and shut down.
CRANE COUNTY	
Crane Dev. Co.'s No. 1 J. R. Mosley, S cor. Sec. 18, Blk. 6, H. & T. C. Sur.	Top salt 819 ft.; drlg. 2,365 ft.; show oil in lime 2,083 and 2,219 ft.
Gulf Prod. Co.'s No. 3 W. N. Waddell, SE cor. NE Sec. 3, Blk. B-25, Public School Land	Drlg. gray sandy lime 3,088 ft.; 1,000,000 ft. gas.
J. K. Hughes Dev. Co.'s No. 1 State Bank Commission, CSL Sec. 18, Blk. 4, H. & T. C. Sur.	Location.
CROCKETT COUNTY	
V. T. Bolin & Co.'s No. 1 P. C. Coates, NW cor. SW Sec. 4, Blk. 2, I. & G. N. Sur.	Shut down 2,110 ft.
Dixie Oil Co.'s No. 1 George Thompson	Location.
J. S. Cosden, Inc., No. 1 Paul Perner, SW cor. Sec. 36, Blk. 2, I. & G. N. Sur.	Drlg. 715 ft.
Humble O. & R. Co.'s No. 2 P. J. Sorg Est.	Drlg. 2,620 ft.
James Kelly et al's (was Corbett & Gill's) No. 1 Todd, C NE Sec. 43, Blk. WX, G. C. & S. F. Sur.	Top salt 993 ft.; show oil 1,948 ft.; 700 ft. sulphur water in hole 2,450 ft.; total depth 2,605 ft.; plugged back to 1,948 ft. and shot 120 qts. 1,909-45 ft.; hole filled 250 ft. with water with slight scum of oil.
Van McPhail's No. 1 George Thompson	Location.
Van Phail et al's No. 1 George Thompson	Location.
Osage Oil Corp.'s No. 2 Halff, 1,200 ft. down river from No. 1 in Sec. 70, Blk. I, I. & G. N. Sur.	Total depth 1,040 ft.; shut down.
Osage Oil Co.'s No. 3 H. M. Halff, Sec. 70, Blk. 1, I. & G. N. R. R. Sur.	Shut down 150 ft.
W. W. Donnelly & Young's No. 1 Massey, Sec. 39, Blk. U-V	Shut down 520 ft.
World Oil Co.'s No. 1 Schneeman-B, Sec. 50, Blk. BB, G. C. & S. F. Sur.	Top salt 1,070 ft.; hole full salt water 2,210-15 ft.; set 6-in. 2,540 ft.; drlg. 2,830 ft.; hole full sulphur water.
Young & Donelly's No. 1 J. M. Shannon, C Sec. 11, Blk. 9, D. & S. E. Sur.	7,000,000 ft. gas at 1,662 ft.; shut down 1,676 ft.
CULBERSON COUNTY	
Deep Rock Oil Co.'s No. 2 Kloh-Rumsey, Sec. 21, Blk. 29, T. & P. Sur., T-1 (NE of No. 1)	Shut down 1,265 ft.
Deep Rock Oil Co.'s No. 1 J. P. Seay	Drlg. 1,175 ft.
Hickey & Stiver's No. 1 C. O. Finley	Drlg. 430 ft.
James H. Gardner et al's No. 1 Radford, C SE Sec. 29, Blk. 62, Public School Land Sur.	Fish. 750 ft.
Scott & Dittman's No. 1 Miller, SW cor. NW NE, Sec. 1, School Blk. 97	Rainbow 1,056 ft.; drlg. 1,550 ft.
ECTOR COUNTY	
Shoup et al's No. 2 C. P. Davis, C Sec. 10, Blk. 42	Moving in material.
EL PASO COUNTY	
Ellsworth & Haunt's No. 1 McKinney & Jones	Rig; drlg. water well.
FISHER COUNTY	
Cranfill & Reynold's No. 1 J. A. Young, Sec. 208, B. B. B. & C. Sur.	Hole full salt water 2,400-35 ft.; swedging 8-in. 2,870 ft.; drlg. by tools.
Mariand Oil Co. and Vacuum Oil Co.'s No. 1 J. H. R. Lagow	Hole full salt water 3,530 ft.; set 6-in. 3,670 ft.; dry and aban. 3,850 ft.
R. W. Raney's No. 2 Maberry, Sec. 56, Blk. 1, T. & P. Sur.	Shut down for orders 2,725 ft.; preparing to resume drlg.
FOARD COUNTY	
Clark et al's No. 1 Atkins	Lime 1,580-1,930 ft.; show gas 1,885 ft.; drlg. 2,560 ft.
Fain-McGaha Oil Corp. and Roxana's No. 2 J. F. Mathews, Blk. 3, G. C. & S. F. Sur.	Location.
Mariand Oil Co.'s No. 1 J. H. Minnick, C NE Sec. 74, Blk. B, H. & T. C. Sur.	Location.
GARZA COUNTY	
Emerald Oil Co.'s No. 1 Boren, NW NE Sec .137, Blk. 5	Shut down 2,600 ft.
Emerald Oil Co.'s No. 2 Boren, C NW NE Sec. 137, Blk. 5	Top salt 660 ft.; drlg. 930 ft.
Gulf Prod. Co.'s No. 1 E. P. Swenson-A, Sec. 67, Blk. 2, H. & G. N. Sur.	Top salt 495 ft.; top lime 2,075 ft.; drlg. gray lime 4,300 ft.

(Continued on Page 131)

Mitchell County

California Co.'s No. 4 W. L. Foster, Lease 1, Section 11, Block 28, T. & P., had the pay at 2,765 to 2,893 feet and bottomed at 2,900 feet. The well was shot with 240 quarts and swabbed 204 bbls. the first 18 hours. After production declined another shot of 60 quarts was used at 2,568 to 2,600 feet and the well is now swabbing 105 bbls.

Nolan County

Zweifel and others' No. 1 Longbotham, C SE Section 130, Block 1, was dry and abandoned at 3,375 feet.

Pecos County

George Anderson's No. 1 Sherbine Brothers was dry and abandoned at 2,700 feet. Mid-Kansas and Transcontinental Oil Co.'s No. 11 Smith-Taylor was drilled to the total depth of 1,387 feet, topping the pay at 1,305 feet and had an initial production of 420 bbls. per hour. Robert Lee has abandoned his No. 1 Joe Parker.

Reagan County

Skelly Oil Co.'s No. 1 University, SW cor. Section 33, Block 8, topped the pay at 3,131 feet and drilled to a total depth of 3,157 feet. The hole was plugged back to 3,153 feet and had an initial production of 35 bbls., 2½ per cent water.

Reeves County

World Oil Co.'s No. 1 Duff, R. S. Johnson Survey No. 68, has been temporarily abandoned at 4,500 feet.

Winkler County

Atlantic Oil Producing Co.'s No. 1 Hendricks-E, SW cor. N half NE, Section 41, Block B-5, topped the pay at 2,795 feet. The well was drilled no deeper and had an initial production of 4,612 bbls., pinched. Humble Oil & Refining Co.'s No. 5 Hendricks, SW cor. NE, Section 34, Block B-5, had a show of oil at 2,860 to 2,930 feet. The well made more oil at 2,968 to 2,972 feet and was drilled to a total depth of 2,979 feet and had a pinched-in initial production of 2,986 bbls.

Independent Oil & Gas Co.'s No. 6 Hendricks topped the pay at 2,902 feet and drilled to a total depth of 2,927 feet. The well had an estimated initial production of 1,250 bbls. Roxana Petroleum Corp.'s No. 4 Hendricks-C, SE cor. of N half NW Section 28, Block B-5, topped the pay at 2,952 feet. The top of the big pay was found at 2,970 feet and the well had an initial production of 4,225 bbls., pinched, without being drilled deeper.

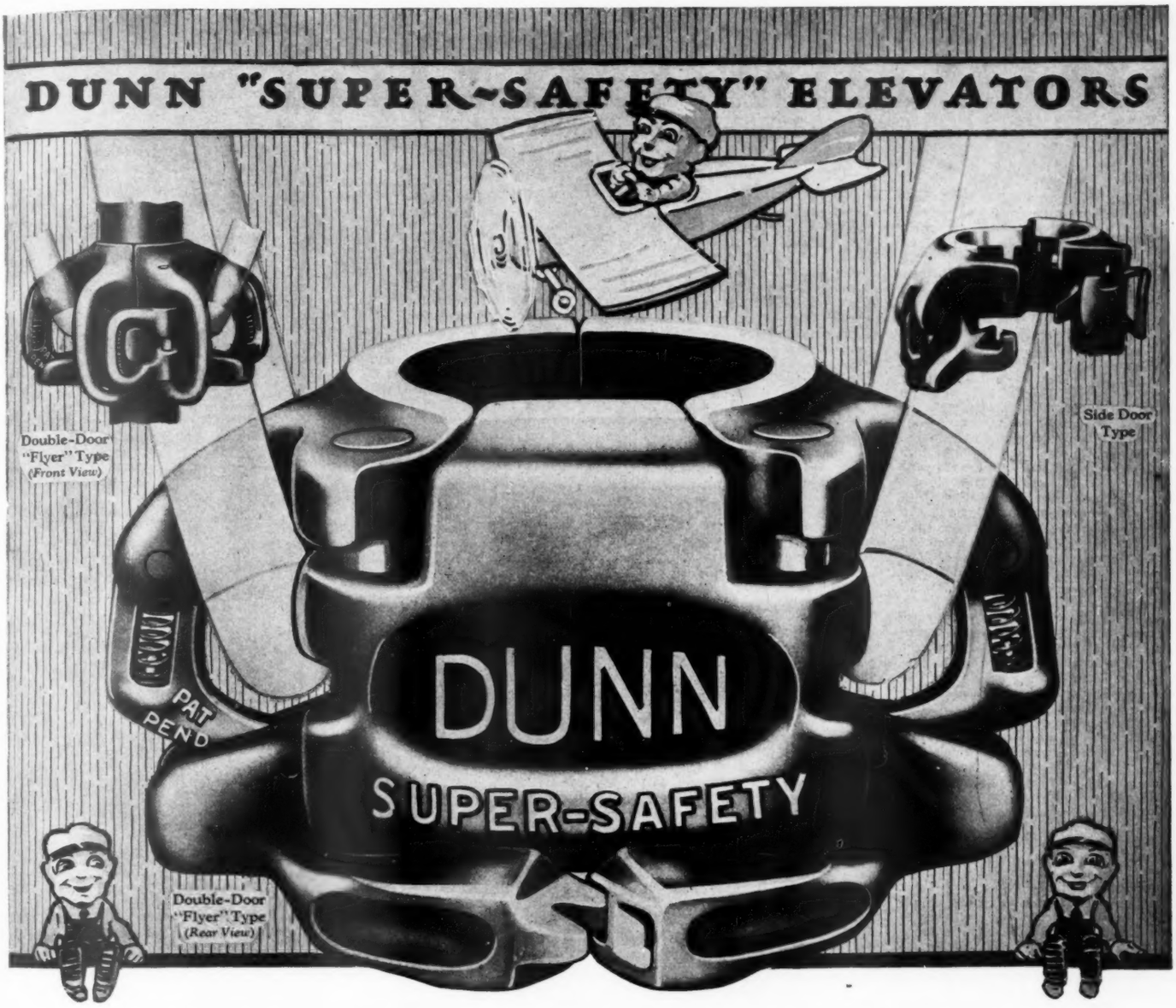
Turman & Maxwell's No. 2 Ida Hendricks, E half NE Section 29, Block B-5, was drilled to a total depth of 2,945 feet with the top of the pay at 2,865 feet and had an initial production of 865 bbls. On the same lease the same company's No. 3 had an initial production of 2,615 bbls. from pay topped at 2,930 feet which was as deep as the well has been drilled. This well is making 35 per cent water and b.s.

TRUCK SHIPMENTS INCREASE

MARION, Ind., Feb. 11.—Shipments of Indiana trucks for January, 1928, show an increase of 60 per cent over January, 1927. This is on top of an increase of 29.5 per cent for December, 1927, over December a year ago. Reports received by the Indiana Truck Corp., of this city, from its factory branches and many of its distributors over the country indicate that the first quarter of 1928 will break all previous records for Indiana truck sales.

CHANGE OF NAME

Pursuant to the amalgamation of certain interests of Vickers, Ltd., and Sir W. G. Armstrong Whitworth & Co., Ltd., oil field equipment hitherto marked by Vickers, Ltd., will henceforth be manufactured and sold by Vickers-Armstrong, Ltd. The main office of the concern is Vickers House, Broadway, London, England.



Positive Safety in Handling Long Strings

Continued drilling to greater depths demands an extraordinary degree of safety in rotary and casing elevators—a fact we recognized long since and have provided in Dunn Super-Safety Elevators in a superlative degree.

These elevators have been used on many of the deepest oil wells ever drilled, successfully handling the extra weight of the longest strings, and providing the highest factor of safety and speed in operation.

OIL WELL DUNN TOOLS

Supplied in all drill pipe, casing and tubing sizes from 1¼" up. Any size sent prepaid for trial.

DUNN SAFETY *means* DONE SAFELY

DUNN
MANUFACTURING COMPANY
OXNARD, CALIFORNIA

Mid-Continent Branch Warehouse
215 East Archer St. Tulsa, Oklahoma

Export Sales Office
150 Broadway, New York City

Moving In Rigs South of Little River

Approach of Rainy Season Given as Reason. Greater Seminole Production Steady. Another Well in Logan County

By J. L. Dwyer
Staff Correspondent, Oklahoma Fields

Just as coming events cast their shadows, coming operations may be detected by the shadows thrown by their derricks, and in the territory south of the Little River Field, the shadows of several derricks foretell that the operators' meeting which is called for February 21 may bring the shutdown in Little River to an end before March 1, which is the official date upon which operations may be started.

There are some 12 rigs either in the field or moving out from town to new locations south of Little River, and while this procedure is rather contrary to the most exact interpretations of the agreement, the reason advanced by the companies is they are anxious to have their rigs built before the spring rains start in. Since this country is extremely low topographically, heavy rains would hamper the movement of any heavy material such as rig timbers.

According to expressions of various members of the Seminole operators committee, their canvassing has found the majority of operators unwilling to continue the Little River shut down. The falling production of many leases and the desire to protect their holdings from drainage is believed to be the cause of the most anxiety, while many companies owning leases in regions which are thought to have good potentialities are naturally anxious to test out their properties with a view towards obtaining a more adequate determination of just what production they may anticipate this year. The disappointing showing of many parts of this country which were very highly regarded, is also a factor in considering abrogating the Little River shut-down. There have been three sharp disappointments in this area where wells which were running abnormally high structurally, were found to have salt water when the Wilcox sand was tapped, and it is now thought that the region as a whole will contain many such instances.

Decrease in Operations

A noticeable decrease in operations is chalked against the Greater Seminole area, and at this time there are less than 100 drilling wells in the entire field. The table showing operations by pools with the well depths follows:

	Little River	Semi-nole	Sea-right	Bow-legs	Earls-boro
Locations	6	0	0	1	3
Rigs	11	0	3	10	10
Drilling—					
Above 2,000 ft.	2	0	0	4	1
Above 3,099 ft.	2	0	0	3	2
Above 3,700 ft.	2	1	0	1	8
Below 3,700 ft.	11	0	5	23	16
Total	28	1	8	42	40

The daily average pipe line runs from the Greater Seminole Field for the week ending Friday, February 10, show little change from the previous week. By companies they are:

Barnsdall	9,773
Consolidated	1,413
Mid-Continent	3,890
Empire	7,658
Gulf	22,297
Magnolia	40,898
Oklahoma	33,469
Ozark	12,933
Prairie	57,346
Pure	7,235
Shaffer	7,516
Sinclair	43,880
Texas	27,065
Tidal	4,811
White Oak	1,875
Total, barrels	282,059

The tank car shipments out of the field show an increase over the previous few weeks, and the daily average moved out of the field by cars for the same period indicated above is 13,071 bbls.

is now shut down pending the construction of tankage.

Prairie's Big Well

The Prairie Oil & Gas Co.'s No. 5 Davis, SE cor. NW NW Section 13-9-5, on the east side of Earlsboro, which was recorded last week as making 250 bbls. hourly from the Wilcox sand 4,337-4,347 feet, has drilled itself in during the week, and is making 7,400 bbls. daily. The increase came during the latter part of last week, and this additional production has helped steady the output of the Greater Seminole area which would have registered a slip were it not for the Prairie's well. The field as a whole again experienced a steady week for total output, and varied from 322,000 to 324,000 bbls. during the seven days.

The Pearson switch area showed little change during the week, with the Indian Territory Illuminating Oil Co.'s No. 1 Sullivan, SW cor. NW SE Section 25-7-3, making a slight decline. This well, which had an initial output of 2,700 bbls., is making 2,100 bbls. at present. The majority of geological opinion has now definitely placed the producing formation in this well as Viola lime. The offset, Magnolia Petroleum Co.'s No. 1 Harper, SE cor. NE SW Section 25-7-3, which was making 300 bbls. at the time the Sullivan well came in, went dead, and after several days' effort at revival work the Harper well is now making 90 bbls. on the swab. The diagonal offset, Magnolia Petroleum Co.'s No. 1 Crawford, NE cor. SE SW Section 25-7-3, is drilling in the Viola lime at 4,220 feet, after having found it at 4,191 feet, and it has swabbed 182 bbls. in 24 hours. This performance has not given any additional confidence to the potentialities of this area, as the Crawford well is far enough into the sand to yield the pay which the Indian Territory well found.

In the Hall-Donnelly area of Creek County, the Independent Oil & Gas Co.'s No. 9 Wolfe, SW cor. NW NE Section 18-14-10, is estimated at 350 bbls. daily from the Wilcox sand found 3,112-3,120 feet. This well extends the limits of the pool a quarter mile to the north.

Logan County Producer

The Lovell area of Logan County was brought into notice by the Roxana Petroleum Corp.'s No. 1 Freelove, SW cor. SW Section 17-18-4w, which is now flowing 100 bbls. daily from the Wilcox sand found 5,980-89 feet. This well filled up with oil at the top of the Wilcox sand. Structurally it is about 30 feet lower than the Roxana Petroleum Corp.'s No. 1 McCulley, which opened the pool, and the Freelove well carries the productive limits of the pool 1 mile to the north. It seems that they will fool around and find a pool yet in that area. The Freelove well

The other producing wells in the Lovell pool are making as follows:

	Bbls.
Roxana Petroleum Corp.'s No. 1 Ross.	612
No. 1 McCulley	2,127
No. 1 Williams	263
No. 1 Stevens	10
Total	3,012

In Grant County, the wildcat well of J. V. Bailey and others, No. 1 Maddox, C SW Section 18-27-5w, has increased its gas to 2,000,000 cubic feet daily. The well was reported last week as having 200,000 feet of gas in sand 4,835-4,832 feet, and the gas increased without deeper drilling.

There were several new wells in the Burbank district of Osage County, Carter Oil Co.'s No. 4, SE cor. SE Section 3-26-6, flowed 350 bbls. daily from the regular Burbank sand found 2,850-60 feet. Gypsy Oil Co.'s No. 4, SE cor. NE NW Section 28-27-6, flowed 9 bbls. an hour after a shot of 160 quarts in sand 2,916-32 feet. The Kewanee Oil & Gas Co.'s No. 6, NW cor. NE Section 28-27-6, made 602 bbls. the first 24 hours from sand 2,900-78 feet.

The production of the Greater Seminole area by companies and leases on Friday, February 10, is given below:

Little River

Company, farm—	Wells	Prod.
Amerada:		
Fore	2	1,065
Nitey	4	2,750
Barnsdall:		
Hotulke	1	60
Blackwell:		
Nitey	8	3,668
Carter:		
Fish		1,365
Jackson		100
Continental:		
Cosar	2	755
Gypsy:		
Brown		50
Campbell	2	222
Nungee	1	12
Pottey		455
Independent:		
Harris	1	104
Davis		2,205
Indian Territory:		
Campbell	1	154
Dungan	3	2,803
House, M. A.	1	258
House, W. E. "A"	1	64
House, W. E. "B"	3	1,791
Jackson	3	2,254
McCulla		1,044
Nitey		1,688
Phoebe, "A"		823
Phoebe, "B"		435
Reed	1	108
Soketheche		1,031
Hull		125
Magnolia:		
Cruse		755
Pottey		518
Mid-Continent:		
Wadsworth	7	1,050
Smith	1	40
Pine & Phillips:		
Pottey	2	970
Prairie:		
Dungan	2	135
House	4	1,275
Roxana:		
Smith	1	12
Shaffer:		
Narcome	1	
Sinclair:		
Comar	1	1,140
Superior:		
Wadsworth	1	20
Snowden-McSweeney:		
Tiger	1	180

OKLAHOMA WILDCATS

NORTHERN OKLAHOMA
GRANT COUNTY

Otstot Development Co.s No. 1 Snyder, NE cor. NE Sec. 6-28-3w ..... Shut down 4,518 ft.
J. V. Bailey and others' No. 1 Maddox, C SE Sec. 18-27-5w ..... Shut down 4,700 ft.
Thraves and others' No. 1 C. D. Fuss, SW cor. NW NW Sec. 30-27-4w ..... Shut down 1,230 ft.
Burns & Beasley's No. 1 Bolsterton, SW cor. NW SW Sec. 24-27-3w ..... Rig.
Brasil & Moses' No. 1 Goutier, SW cor. NW Sec. 34-26-4w ..... Shut down for pipe 650 ft.
Lambert and others' No. 1 Tabor, SE cor. NE SE Sec. 22-26-3w ..... Spudded and shut down.
Cowden and others' No. 2 Vollmer, CEL NE SW Sec. 22-25-4w ..... Fishing 5,640 ft.

HARPER COUNTY

Kopisch Oil Co.'s No. 1 Johnson, NE cor. SE Sec.
Hoffer Oil's No. 1 Cooper, NW cor. SE SE Sec. 12-25-22w, 24-27-21w ..... Shut down 4,182 ft. Rigged up and shut down.

WOODS COUNTY

Sooner State Oil Co.'s No. 1 Marcum, C SW Sec. 20-27-15w ..... Rig.
Victor Oil Co.'s No. 1 Buskirk, SW cor. SE Sec. 10-25-15w ..... Hole full water 775-800 ft., shut down 900 ft.

(Continued on Page 85)

Texas:		
Coker	3	620
Tidal:		
House	3	1,715
Johnson	1	75
Total	95	33,964

Maud

Barnsdall:		
Fife	1	
Indian Territory:		
State	1	
Total	2	

Bowlegs

Amerada:		
Rasco	8	2,730
Atlantic:		
Baker	4	600
Fleet	4	420
Grayson	3	1,168
Jones, A.	3	60
Jones, C.	2	220
Barnsdall:		
McNac	1	32
Murrow	4	908
Carter:		
Bowlegs	4	1,273
Burden	3	363
Harjoche	6	860
Hilly	3	1,115
Jones	4	1,750
McGeisey	1	35
Melisse	1	540
Walker	4	740
Wise	12	4,173
Empire:		
Lacy	6	670
Wise	2	600
Gypsy:		
Bowlegs	1	
Bradley	1	10
Cumsey	4	1,522
Dosar	1	100
Grayson	4	725
Harjoche	1	800
Henderson	1	
Jones	1	297
Walker	8	2,142
Wise	3	227
Indian Territory:		
Barnett A.	1	387
Barnett B.	2	258
Billington	5	860
Bowlegs	11	1,645
Davis	4	1,426
Fay	9	2,776
Goforth	11	1,743
Livingston	11	3,050
Lizzie	2	647
Walker	8	1,099
Wilmont	4	882
Work	1	135
Youngblood	2	140
Magnolia:		
Davis, B. F.	1	787
Davis, M.	1	371
Hammond	2	126
Rhoades	12	5,118
Van Buskirk	1	267
McColloch:		
Bowlegs	3	355
Mid-Continent:		
Baker	4	1,861
Bowlegs	1	
Hutke	1	1
Smith	6	780
Minnehoma:		
Bowlegs	3	167
Prairie:		
Gahagan	4	670
Harber	8	3,615
Jones	4	750
Templeton	4	3,475
Whitney	4	160
Pure:		
Reed	15	3,690
Strothers "D"	4	787
Strothers "F"	3	1,466
Roxana & Houston:		
Taylor	6	1,565
Shaffer:		
Lacy	3	442
Sinclair:		
Bowlegs	1	60
Cumsey	4	6,446
Ellen	6	1,695
Harjo	3	790
Jones	6	5,041
Taylor, M.	1	3,267
Taylor, W.	4	1,535
Walker	4	845
Texas:		
Reed	10	3,520
Tidal:		
Grayson	3	1,220
Harjoche	4	3,040
Twin States:		
Jones	2	17
Total Bowlegs	307	93,042

Earlsboro

Amerada:		
Anderson	2	1,495
Cowden	8	2,020
Rodgers	3	2,000
Barnsdall:		
Brown	4	2,110
Bruner, F.	2	660
Bruner, N.	4	1,314
Cudjo, C.	1	20
Davis, D.	3	1,790
Davis, J.	4	1,235
Davis, M.	3	571
Gibson	8	2,620
Hearn	1	6
Ingram	7	4,820
Pack	4	178
Peter	4	348
Sango	3	6,825
Sebolka	1	854
Sullivan, H.	1	74
Sullivan, Harjo	3	1,650
Wasutke	4	1,662
Carter:		
Davis	1	95

Flashing

The function of a cracking process is to produce a high yield of gasoline at low cost

With the Dubbs Process you can now get

Better gasoline than by straight distillation

Distillate and good fuel oil

Negligible coke production, permitting greatly lengthened runs, and with just about enough gas to run the system

The final net result: A good profit, even under present market conditions

Universal Oil Products Co
Chicago, Illinois

Dubbs Cracking Process
Owner and Licensor

Payne	3	150
Sango	4	3,450
Continental:		
Kaye	2	360
Spencer	4	1,330
Crosbie:		
Bryant	2	....
Empire & Routt:		
Barker	1	2,006
Edmundson	3	1,240
Gypsy:		
Bruner	4	15
Carter	10	3,455
Earl	1	4,167
Hunick	1	15
Horo	1	800
Noble	4	4,260
Peter	6	180
Sango	5	5,395
State	4	1,405
Independent:		
Bruner	4	90
Sullivan	4	248
Knapp	5	2,535
Gaines	4	1,110
O'Dell	4	15
In.er-Ocean:		
Payne	1	....
Magnolia:		
Bryant	6	2,270
Cowden	4	95
Dixon	1	17
Edmundson	3	38
Holmsley	8	2,659
Ingram	1	30
Lena	3	84
Seay	9	5,878
Simpson	4	320
Sparks	7	2,513
Sullivan	3	113
Mid-Continent:		
McCumber	7	430
Mid-Kansas:		
Anderson	4	315
Phillips:		
Dunnaway	1	32
Graham	7	192
Prairie:		
Baker	1	50
Davis	4	7,955
Graham, C.	2	....
Graham, O.	4	1,885
Stidham	13	3,925
Roxana:		
Bayliss	1	15
Spencer	2	1,780
Shaffer:		
Clark	5	1,041
Sinclair:		
Foreman	1	15
Hollins	3	245
Sango	2	4,870
Skelly:		
Spencer	1	738
Texas:		
Anderson	6	1,072
Brown	8	2,710
Rodgers	4	4,965
Wilmont	6	3,315
Tidal:		
Watkins	8	2,950
Twin State:		
Barker	3	100
Hearn	4	3,030
Total Earlsboro	290	118,432

Seminole

Carter:		
B. Carter	2	210
J. Carter	3	35
F. Carter	3	105
Creamer	2	25
R. Cudjo	4	285
W. Cudjo	2	15
Gilliland	2	335
Grisso, M.	1	160
Grisso, W.	5	700
Jackson	1	10
Knapp	3	45
Killing, M.	12	7,908
Killing, G.	4	425
Lukes	7	1,600
Ponder	2	32
Simpson	3	73
Strother	4	440
Vierson	3	345
Amerada:		
Fixico	4	937
Killing	4	569
Rentie	3	748
Atlantic:		
Cudjo, N.	3	611
Barnsdall:		
Carter	8	2,581
Henry	2	540
Jones	4	1,025
Empire:		
Gross	3	106
Wilson	2	351
Gypsy:		
Butler	4	900
Carter	8	276
Cudjo	5	547
Fixico	7	140
Harjo	3	1,995
Wolf	6	305
In.ependent:		
Butler	4	975
P. Fixico	3	260
Harjo	3	150
Independent & Garland:		
T. Fixico	8	592
Independent & Interocean:		
Jones	4	296
Indian Territory:		
Allen	2	478
Bowlegs	12	2,813
Gooden	4	298
Harjo	4	199
James	4	268
Reed	3	28
Kingwood:		
Johnson	3	1,291
Magnolia:		
Born	1	50
Franks	4	832
Mid-Continent:		
Rentie	9	1,350
Tayeche	7	295
Mid-Kansas:		
Wilkins	1	5
Phillips:		
Strothers	2	108
Prairie:		
Gross	5	130
Mason	1	90
Spencer	1	12
Strother	8	1,415
Pure:		
Strother, A.	17	5,260
Stro her, B.	5	1,952
Strother, C.	1	235
Roxana:		
Harber	2	277
Lashley	2	25
Sinclair:		
Carter	2	28
Cudjo, A.	6	1,255
Cudjo, B.	4	880
Dicey	2	1,650
Fixico	4	685
Slick:		
Cudjo	3	745
Franks	8	1,364
O'blet, Sam	3	2,185
Tiger	1	71
Superior:		
Cudjo	4	525
Texas:		
Mayhue	1	305
Strothers	2	130
Tidal:		
Carter	4	785
Fixico	6	742
Harjo, D.	3	745
Harjo, T.	6	220
Mahardy	2	151
Turman:		
Cudjo	4	1,150
Grisso	1	347
Jones	4	1,348
Total	318	58,484

KANSAS WILDCATS

BARBER COUNTY

G. W. Basom's No. 1 Grant, SW cor. SE SW, Sec. 18-31-3 ..... Rigging up machine.
Otstot et als' No. 1 Barlow, SE cor. SE, Sec. 22-33-3w ..... Shut down 1,860 ft.
Rolland and others' No. 1 Pickens, NE cor. NW NE Sec. 27-30-14w ..... Shut down 3,196 ft.
J. K. D. Shaffer's No. 1 Carter, C SE SE Sec. 2-33-13w ..... Drilling 3,575 ft.
J. K. D. Shaffer's No. 1 Boggs, SW cor. NE SW Sec. 19-33-12w ..... Top chat 4,465 ft.

BARTON COUNTY

Everett & Wiley's No. 1 Ward, NW cor. SW Sec. 12-20-13w ..... Shut down 3,948 ft.
Huffine and others' No. 1 Smith, NE cor. SE NW Sec. 17-19-11w ..... Shut down 5,180 ft.

BUTLER COUNTY

Cress & Franks' No. 1 Bryson, NE cor. NE Sec. 26-27-5 ..... Spudded and shut down.
Empire Gas & Fuel Co.'s No. 1 Semisch, NW cor. SE NW Sec. 4-28-7 ..... Rig.
La Robb and others' No. 1 Bronsenger, NE cor. SW Sec. 24-27-3 ..... Rig.
Joe Liggett's No. 1 Travender, NW cor. SE Sec. 24-28-6 ..... Drilling 2,400 ft.
White Eagle Oil & Refining Co.'s No. 1 Dixon, NE cor. SE SW Sec. 1-27-6 ..... Hole full of water 3,099-3,105 ft.; shut down.
H. F. Wilcox Oil & Gas Co.'s No. 1 Littell, NE cor. SE NW Sec. 21-29-4 ..... Collapsed casing 1,458 ft.; shut down.

CHASE COUNTY

Griener & Fowler's No. 1 Carson, NE cor. NE Sec. 9-21-7 ..... Drilling 800 ft.

CLARK COUNTY

Skelly Oil Co. & Merriam's No. 1 Winter, C E Half Sec. 17-31-12w ..... Drilling 3,415 ft.
Walter & Warner's No. 1 Mitchell, SW cor. NE Sec. 16-31-23w ..... Shut down 600 ft.

CLOUD COUNTY

Concordia Producing & Refining Co.'s No. 1 Murdock, SE cor. SE Sec. 6-6-4w ..... Shut down 3,590 ft.

COWLEY COUNTY

Allison & Fitzwilliams' No. 1 Shapland, NE cor. NW SE Sec. 2-30-6 ..... Drilling 300 ft.
Derby Oil Co.'s No. 1 Seaman, NE cor. SE NE Sec. 32-30-3 ..... Drilling 2,640 ft.
John Herron and others' No. 1 Marshall, SW cor. NE Sec. 36-30-6 ..... Shut down 470 ft.; legal trouble.
Meridian Gas Co.'s No. 1 Roselle, SW cor. SE Sec. 8-35-1.. Drilling 1,100 ft.
Otstot et al's No. 1 Volker, NW cor. NE, Sec. 9-35-1 ... Rig.
Harris & Hahn's No. 1 Gamble, C NW NW Sec. 17-35-3 ..... Drilling 220 ft.
E. B. Shawver and others' No. 1 Disser, NW cor. NW Sec. 10-34-3 ..... Drilling 1,345 ft.
Vickers Petroleum Co.'s No. 1 Daniels, NE cor. NW Sec. 3-30-3 ..... Shut down 1,800 ft.

(Continued on Page 121)

WILDCAT LEASING IN KANSAS ATTRACTING MUCH ATTENTION

By J. L. Dwyer
Staff Correspondent, Kansas Fields

With Lost Springs and Oxford townsite, the only two pools which are evoking any interest from a producing standpoint, the attention of wildcat leasing in Kansas is centered in several blocks which have been taken, and several which have been traded lately.

At Lost Springs, the Phillips Petroleum Co. is now completing the second well in the pool. It is No. 1 Mowrer, SW cor. NE Section 22-17-4, and is swabbing better than 100 bbls. daily from chat found 2,395-2,400 feet. Phillips Petroleum Co. is drilling 10 wells in this region.

In Cowley County, the Skelly Oil Co.'s No. 1 Saunders, NE cor. NW NE Section 31-31-6, appears to be good for 40 bbls. natural in the Peru sand found at 2,268-96 feet. A sandy lime was found from 2,296-2,305 feet and the well was shot owing to the tight nature of both of these formations.

It is reported that a Tulsa company is taking a large block of wildcat acreage in Pratt County, the block centering around Township 27s-14w. In Ellis County, it is rumored that T. B. Slick will take over the block of leases formerly held by Hawes & Amesworth embracing Sections 4, 5, 6, 8, 9, 16 and 17, Township 11s-16w. This block is being core-drilled now, and a tentative location is said to have been made in the NW cor. NW Section 8-11s-16w.

Considerable interest is being shown on the east side of Edwards County, although a limited number of actual transactions have been recorded.

Butler County

Garden and others' No. 1 Sluss, SE cor. SW NE, Section 6-27-6, is a rig under construction. Richmond Drilling Co.'s No. 1 Getter, NE cor. SW, Section 17-27-6, is dry and abandoned at 3,130 feet. Liggett and others' No. 1 Tavender, NW cor. SE, Section 24-28-6, is dry and abandoned at 2,838 feet.

Cowley County

Kentucky Nitrogen & Oxygen Co. made location for No. 3 Dobson, SE cor. SW NE, Section 24-33-6. Washoma Oil Co. is building the rig for No. 1 Esch, SW cor. Section 33-33-6.

Kentucky Nitrogen & Oxygen Co.'s No. 1 Dobson, SE cor. NE, Section 24-33-6, has been completed for 6,000,000 feet of gas in sand at 958-67 feet. No. 2 Dobson, SW cor. NE, Section 24-33-6, is good for 1,500,000 feet of gas from sand at 1,098-1,100 feet.

Elk County

Jacqueline Oil Co.'s No. 1 Willard, NW cor. SE, Section 3-30-12, is cleaning out after a shot of 40 quarts in sand at 765-72 feet.

Ellis County

Derby Oil Co. made location for No. 1 Weigle, C NW, Section 25-12-17w.

Greenwood County

Skelly Oil Co. made location for No. 2 Pixlee, SW cor. SE SE, Section 3-22-10. Transcontinental Oil Co. has the rig on the ground for No. 3 Pixlee, NW

(Continued on Page 114)

Searight		
Carter:		
Davis	7	770
Frazier	6	3,025
Johnson	1	5
Kiker	1	30
Mandler	2	30
Scott	1	20
Amerada:		
Johnson	1	75
Strother	2	1,370
Gypsy:		
Cudjo	4	732
Mid-Continent:		
Grayson	6	40
Soloche	3	2,245
Pine:		
Lulla	1	30
Prairie:		
Cannon	1	10
Carter	1	20
Houck	1	5
Kincaid	5	85
Wiemer	1	25
Superior:		
Varnum	1	62
Pure:		
Aldridge	6	2,639
Roxana:		
Strother	4	2,403
Sinclair:		
Polly	4	1,805
Texas:		
Fleet	1	....
Twin State:		
Varnum	2	465
Wilcox:		
Chupco	8	2,828
Total	71	18,719
Total Little River	95	33,904
Total Bowlegs	307	93,043
Total Earlsboro	290	118,432
Total Seminole	318	58,484
Total Searight	71	18,719
Total Maud	2	....
Grand total	1,083	322,582

Carter County

Magnolia Petroleum Corp. made location for No. 2 Gabrel, SE cor. NW SW, Section 23-1s-3w. Schermerhorn Oil Co. and others' made location for No. 3 Crockett, SE cor. SW NW, Section 23-1s-3w. No. 1 Crockett, NE cor. NW SW, Section 23-1s-3w has been completed for 265 bbls. in sands 2,294-2,307 feet and 2,307-10 feet.

Creek County

Independent Oil & Gas Co. made location for No. 1 Tahkaney, SE cor. NE SE, Section 7-19-9. Kennedy & Horner and others' moved a machine out for No. 3 Burnett, NW cor. SW SW, Section 24-18-11. W. Hammon and others' rig is on the ground for No. 1-A Peeper, NE cor. NW, Section 10-16-10. Wilcox Oil & Gas Co. has the rig on the ground for No. 5 Dixon, NE cor. SW, Section 18-14-10. The Prairie Oil & Gas Co. is moving the rig in for No. 2 Sheppard, SE cor. NE SE, Section 35-15-7.

Kennedy & Horner and others' No. 2 Tiger, C NE NW, Section 25-18-11 is dry and abandoned at 2,454 feet in Wilcox sand found at 2,244 feet. Skelly Oil Co. & Holmes' No. 1 Dickson, SE cor. NE, Section 24-17-9 made 300 bbls. from Red Fork sand 2,120-55 feet. Summit Drilling Co.'s No. 1 Gilles, NE cor. SE NW, Section 14-16-11 was completed for 60 bbls. in Dutcher sand at 2,381-89 feet. Paraffine Oil Co.'s No. 2 Martin, SW cor. SE NW, Section 26-16-11 is dry and abandoned at 2,825 feet. Olean Petroleum Co.'s No. 4 Bigpond, NW cor. SW NE NE, Section 36-15-7 is making 15,500,000 feet of gas from Dutcher sand 3,229-44 feet. Bu-Vi-Bar Petroleum Co.'s No. 1 West, SE cor. SW, Section 3-15-8 is dry and abandoned at 3,869 feet.

Kay County

Ingram & Wilson made location for No. 1 Johnson, SW cor. NE, Section 36-28-1w to drill for shallow gas. Industrial Oil & Gas Co.'s No. 1 Walker, C NE NE, Section 2-27-1w is spudding. Mummert Drilling Co. and others' rig is under construction for No. 1 Harris, SW cor. SE, Section 27-27-3.

Harris & Haun's No. 1 Miller, C SW SE, Section 20-29-1 lost the hole at 615 feet and has been abandoned. Industrial Oil & Gas Co.'s No. 3 School Land, NE cor. NW SW, Section 36-28-1w gauged 2,000,000 feet of gas from sand 665-75 feet. Fred Morgan's No. 1 Elder, NW cor. SW, Section 29-28-1 drilled to 1,502 feet and plugged back to 1,160 feet and was completed for 150,000 feet of gas. Industrial Oil & Gas Co.'s No. 1 Letzig, C SE NE, Section 28-27-1w is dry and abandoned at 832 feet.

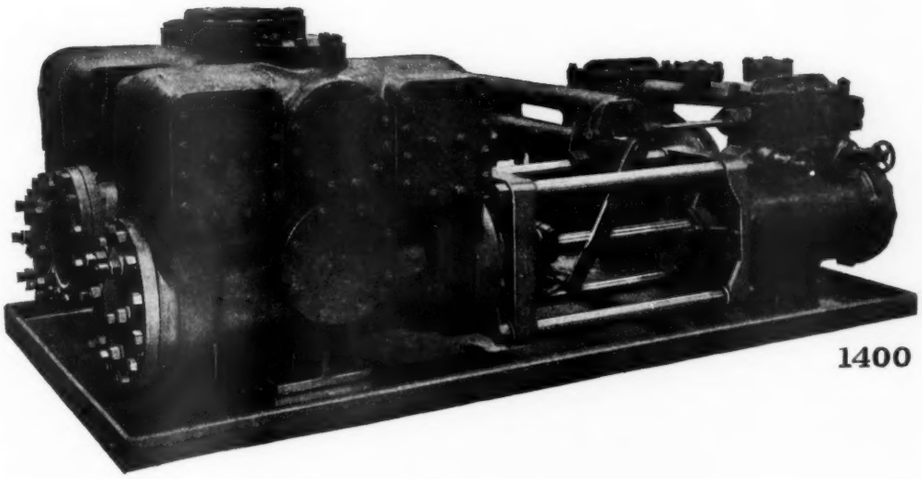
Logan County

Roxana Petroleum Corp. is building a rig for No. 1 Rouse "B," NE cor. Section 19-19-4w Lovel area. This rig is under construction for No. 1 Ross "B," SE cor., Section 19-19-4w. The rig is being built for No. 1 Rouse, SW cor. Section 20-19-4w. Also the rig is going up for No. 2 Sebranek, NE cor., Section 30-19-4w.

Roxana Petroleum Corp.'s No. 1 Ross, NW cor., Section 29-19-4w made 716 bbls. from Wilcox sand 6,049-60 feet. No.

(Continued on Page 131)

TRANSIT
Pumping-Out Pumps



1400

Pumping out pumps are used to remove the tar and residual from various types of oil stills. This can be, and oftentimes is, one of the meanest jobs around a refinery. It requires a special pump to do this work successfully.

TRANSIT Block Valve Pumps have large rectangular valves as large as your feet, but no guards, no stems, no springs, nor separate seats to loosen by reason of the expansion of the fluid end from the hot tar. The valve seats are integral with the fluid cylinder casting. There is no trouble from expansion regardless of the heat of the fluid pumped.

Removing any valve chamber cover gives access to both an intake and a discharge valve, for inspection or removal.

These pumps are the solution of the pumping out problem, and they are low in price.

Descriptive matter on these pumps on request.

Representatives

FRICK-REID SUPPLY COMPANY
Tulsa, Okla., or any store.

ASSOCIATED SUPPLY COMPANY
Los Angeles, San Francisco, Bakersfield, Fellows

E. L. WILSON HARDWARE CO.
Beaumont, Texas.

NATIONAL TRANSIT
Pump & Machine Co.
Oil City Pa.

DISTRICT OFFICES
NEW YORK PHILADELPHIA PITTSBURGH
CLEVELAND HOUSTON TULSA DENVER

Representatives

THE GLOBE SUPPLY & MACHINERY CO.
New Orleans, La

F. C. RICHMOND MACHINERY CO.
Salt Lake City, Utah

MORTON McL. DUKEHART & CO.
Baltimore, Md.

REEVES & SKINNER MACHINERY CO.
St. Louis, Mo.

Richland Gas Wells Hold Attention

Completion List Longer Than for Many Weeks. Burning Well Has Crater 100 Feet in Diameter. Caddo Wildcatting

By D. H. Bancroft
Staff Correspondent, North Louisiana-Arkansas

SHREVEPORT, La., Feb. 13.—Developments in Richland Parish, two wild wells of large initial gas production, monopolized attention given developments in this territory during the week. One of the two was closed late Friday while the other until Sunday was a burning crater 100 feet in diameter. The completions list is longer than it has been for the last month or six weeks gas predominating. Of 25 completions in the territory as a whole 10 were gassers, 1 an extension of Richland territory, with a total initial open flow capacity of 145,238,000 feet; 8 were wildcat failures and 4 were producers with an initial production of 265 bbls. After the week's report had been made up Dixie Oil Co. added another good producer in Pine Island Trinity area with No. 90 Dillon, Section 14-21-15, which came in flowing from 4,055 feet and had made 180 bbls. the first 10 hours. Increasing its production as it is allowed to flow, it is estimated good for 500 bbls.

Crater 100 Feet Diameter

Natural Gas & Fuel Corp.'s No. 1-A Thompson in Section 21-16-6, Richland Parish which was completed January 29 with 65,380,000 feet of gas at 2,477 feet and started blowing around the casing soon after being shut in, cratered the next day and later caught fire. The crater, which swallowed all surface equipment, was soon 100 feet in diameter, slowly spreading. Two relief wells, Nos. 2-A and 3-A Thompson, 500 feet north and south, were running three shifts to get down to the pay as quickly as possible and relieve pressure on the burning well sufficiently to permit pumping it full of water to flood the sand at the bottom.

Sunday the well extinguished itself, but it is still blowing gas through mud and water filling the crater. The water pulled into the hole from the upper sands is turned to steam on reaching the surface and this with the gas kneaded the mud into a sticky doughlike mass. Sunday the crater heaved a chunk of this mud about the size of an automobile 10 or 15 feet into the air and when it fell back it pancaked out and cut off the gas just long enough to kill the fire.

The column of gas now coming up through the mud and water filling the crater is much smaller than the well's initial production and there are hopes of its eventually killing itself, though Natural Gas & Fuel Corp. is taking no chances but is going ahead with the two relief wells.

In the opinion of some operators it would be safer for the well to continue burning as long as it is running wild. That part of the country is low and flat and their idea is that the humidity of the air will cause the gas to hug the ground with possibility of an accumulation sufficient to constitute a fire hazard such as caused the death of six persons when the old Constantine well at El Dorado caught fire after cratering and running wild for a week or two. Moody and Seagraves' No. 1 LaFleur in Section 18-16-6, Richland Parish, 2 miles northeast of the crater well, has been completed at 2,465 feet with an initial, 54,000,000 feet of gas.

This well is just beyond the eastern edge of the town of Alto. A little further away on the opposite side of town Moody & Seagraves' No. 1-C Hemler in the same section. Section 21-16-6, came in unexpectedly Monday while the crew were getting the Christmas tree in place and was blowing wild until late Friday when they succeeded in getting new fittings on and closing it. It is estimated as making 54,380,000 feet with some salt water, total depth 2,503 feet. It had been deepened from 2,477 feet where it made about 1,000,000 feet of gas.

Between these two wells residents of the town of Alto have been living under rather nerve-racking circumstances for the past week or 10 days. It was necessary, on account of the noise, to close the school entirely and at night the combination of glare from the burning crater and the noise from both wells has made sleep almost impossible. The novelty of the spectacle soon wore off. These two are the first serious wild wells in the Richland Field, though a blowout early in 1927 gave Oliver and others considerable trouble before their No. 1 Hatch in Section 2-15-5, bridged and killed itself.

Three Cuts in Crude

Reductions of 10 cents in posted price of Smackover light and heavy crudes, Cotton Valley and Calion, early in the week left individual operators with hardly any margin after paying their operating expenses. Louisiana Oil Refining Corp. led the cutting, posting new prices of 75 cents on Smackover crude below 24 gravity, 90 cents on oil testing 24 and above. Reason for the reduction, which hits the Louisiana about as hard as it hits anyone, was not known here, orders for the new postings coming from New York. The next day these new prices were met by all companies save Magnolia Petroleum Co. and Atlantic Oil Producing Co., Standard Oil Co. of Louisiana extending the cut to Cotton Valley which it reduced 10 cents to 75 cents per barrel and Gulf Refining Co. quoting Calion (El Dorado East Field) oil a like amount to the same price. February 8, Magnolia and Atlantic companies met the reductions. Just before these cuts were announced the market situation was toned up a little by announcement of the sale of 100,000 bbls. of Smackover heavy oil to the H. H. Cross refinery at Smackover at a 7½-cent premium over the posted price.

More Caddo Wildcatting

In addition to the wildcat campaign indicated by Gulf Refining Co.'s purchase last week of 900 acres north of Blanchard in addition to the several thousand acres in the central portion of the parish it has been blocking during the past several months, Empire Gas & Fuel Co. is reported planning a 4,000-foot test on a block of 3,000 acres it has acquired in Townships 16 and 17, Range 13, a few miles south of Shreveport.

A possible extension of Pine Island Trinity production to the west into Section 15-21-15, appears in forthcoming test of 7 feet of sand penetrated in No. 1 Herndon for which 5⅜-inch casing is being cemented at around 4,010 feet with sand from 4,010-17 feet. Like territory in Section 11-21-15, on the north of Section 14, to which this production appeared to have been limited until Dixie Oil Co. completed No. 4 H. H. Huckaby in Section 11, as an 80-bbl. pumper, Section 15, has been regarded on the strength of previous failures as hopeless in the 3,900-foot stratum.

Deep Gas in Cotton Valley

Humble Oil & Refining Co. completed two small gas wells in the Trinity horizon in Cotton Valley, No. 5 J. J. Babb, Section 14-21-15, the discovery section of the Webster Pool, making 3,500,000 feet at 4,525 feet and No. 1 M. E. Gray in Section 26-21-10, 2 miles south, making 4,500,000 feet, total depth 4,572 feet. In the Sarepta-Shongaloo district Arkansas Natural Gas Co. completed No. 1 North Central Texas Oil Co., Section 36-23-10, with 1,500,000 feet of gas at 2,720 feet. In the same district Magnolia Petroleum Co. is making a deep test for gas in No. 1 H. L. Munn, Section 29-23-9, which passed up 7,790,000 feet in the regular 2,700-foot zone.

Northwest Louisiana Gas Co.'s No. 1 Bain, Section 31-23-11, in the southeast extension of the Cartersville gas field of northern Bossier Parish, was completed during the week as a 35,000,000-foot gasser at 3,078 feet.

One more deep hole was added to the list of abandoned wells in the Pine Island district of Caddo when Ohio Oil Co.'s wildcat, No. 25 E. K. Smith in Section 12-21-15, was abandoned after perforating casing at 4,369 feet and testing salt water, total depth 6,001 feet. Location is 2 miles east of Pine Island Trinity production and save the showing at the shallower level which was passed up in drilling had not developed anything looking like production.

The Texas Company completed No. 8 A. Herndon, Section 14-21-15, flowing 75 bbls. with 2,000,000 feet of gas, total depth 3,705 feet. Standard Oil Co. put No. 17 J. J. Hart, Section 34-21-16, Oil City district, on the beam making 75 bbls. total depth 1,845 feet.

The Monroe district contributed one fair sized gasser and one small one in Morehouse Parish, and another small one in Ouachita. Consolidated Carbon Co.'s No. 1 Perry, Section 14-20-4, Morehouse, gauged 20,000,000 feet, total depth 2,165 feet, and Moody & Seagraves completed No. 1 Wolf, Section 13-20-4, their first Monroe completion, making 7,000,000 feet total depth 2,168 feet. Imperial Oil & Gas Products Co.'s No. 4 Stubbs, Section 13-19-3, Ouachita Parish, was a 2,000,000-foot well, total depth 2,212 feet. Richland had one successful completion in addition to Moody-Seagraves' No. 1-C Hemler, Natural Gas & Fuel Corp.'s No. 1 Sartor-Phillips in Section 9-16-6, 1½ miles north of its burning well, making 54,238,000 feet at 1,125 pounds rock pressure, total depth 2,466 feet.

East Texas

East Texas territory had one completion, a failure, Hiles and others abandoning No. 1 Jones in the G. Goodman Survey after a dry test at 2,514 feet.

There were only two completions in Arkansas, a gas well in Smackover and a small producer in Champagnolle. Standard Oil Co.'s No. 1-B Goodwin, Section 5-16-15, gauged 3,000,000 feet of gas at 155 pounds from 7 feet of sand 2,641-48 feet on second completion. When completed May 13, 1923, it was a 600-bbl. producer in the Meekin sand at 2,001 feet. The Champagnolle well was Oilwell Corp. and Magna Produc-

(Continued on Page 130)

PRODUCTION EXTENDED MILE WEST IN RICHLAND PARISH GAS AREA

By D. H. Bancroft

SHREVEPORT, La., Feb. 13.—Not all the news from Richland this week was bad for while Natural Gas & Fuel Corp.'s 1-A Thompson and Moody & Seagraves' No. 1-C Hemler, both in Section 21-16-6, were running wild, Moody & Seagraves were extending production approximately a mile west with No. 1 Hatch in the C E half SW, Section 34-16-5, a 2,500,000-foot gasser, total depth 2,482 feet. This is a few feet deeper than the average of wells in the center of the field to the northeast, surface and elevations being the same. Location is 1½ miles west of Moody & Seagraves recent completion on the McClannahan lease in Section 36-16-5 and approximately three-quarters of a mile to a mile west of their No. 1 Osborn in Section 14-15-5, 2 miles south, which, dry and abandoned in volcanic rock at 2,501 feet, seems to define the limits of proven area to the southwest. This well, however, may be drilled still deeper at some future date as it is carried on company field reports as temporarily abandoned.

Much the same experience has been met by Benson Drilling Co. in No. 2 Wolff, Section 3-10-13, DeSoto Parish. At 1,250 feet the hole is in the hardest chalk that has been found in this part of the country the operators say.

Tests in Mississippi

Two tests in Mississippi during the week both resulted in salt water but drilling will continue in both cases. On the strength of a soft sugary sand smelling strongly of petroleum at 2,240-50 feet, The Texas Company set 8¼-inch casing with packer and a joint of perforated liner for a test of No. 1 Day, Section 18-16-18, Monroe County. On bailing off bottom a small amount of salt water was noticeable and after standing 12 hours the hole filled up 75 feet in salt water and casing and liner were pulled to be reset when the next available seat is reached.

Examination of cuttings from this well here and at Tuscaloosa, La., place the bottom of the well at present in the Pennington formation at the top of the Mississippian and at least 350 feet higher than the Natural Gas & Fuel Corp.'s No. 1 Rye in Section 22-15-17, about 10 miles northeast, which is thought to be producing 3,500,000 feet of gas from the Pennington. Should this theory be correct, all the dope of a 40-foot per mile southwest dip in the Mesozoics and 71 feet in the Paleozoics heretofore held, is shot to pieces. However, both the showing of bituminous substance and the fact that the well is checking so much higher is more of the enlightening information which the log of each well drilled is supplying.

Unconformities between the Cretaceous and the Pennsylvanian and between the Pennsylvanian and the Mississippian are causing these differences in logs, it is claimed. However, of four drilled to these depths two are producers from different horizons, the Rye being in the Pennington and the discovery well being lower in the Bangor or upper Hartsell sandstone.

Natural Gas & Fuel Co. will plug No. 1 Rye from 2,708-15 feet with lead wool to cut off the water that has been giving trouble since completion several months ago and, failing in this, will install a siphon so that gas may be furnished for fuel for a deep test to be begun shortly in the immediately vicinity.

The other test was Cherokee Petroleum Co.'s No. 1 Burkett, Section 14-6-18, Jeff Davis County, the "Bassfield well" which the newspapers reported last

(Continued on Page 111)

New *and* Striking Features *in the* *Wilson Model S Welder!*

WILSON WELDING MACHINE DISTRIBUTORS

Joseph T. Ryerson & Son, Inc.
16th & Rockwell Sts., Chicago, Ill.
Lock Box 484, Jersey City, N. J.
Box 996, Buffalo, N. Y.
531 Pittsburgh Life Bldg., Pittsburgh, Pa.
E. 53rd St. & Lakeside Ave., Cleveland, O.
1600 E. Euclid Ave., Detroit, Mich.
Station N, Box 36, Cincinnati, Ohio
2208 North 2nd St., St. Louis. Mo.
1008 Union Nat. Bank Bldg., Houston, Tex.

Austin-Hastings Co., Inc.
226 Binney St., Kendall Square, Cambridge "C", Boston, Mass.

Oliver H. Van Horn Co., Inc.
522 Camp St., New Orleans, La.

Smith Booth Usher Co.
228 Central Ave., Los Angeles, Calif.
50 Fremont St., San Francisco, Calif.

Foreign

American Trading Company
(Japan and dependencies)
25 Broad Street, New York City

Amsterdamsch Kantoor voor Indische Zaken
(Dutch East Indies)
B. G. D. Ter Braake,
85 St. Marks Avenue, Brooklyn, N. Y.

Baldwin Locomotive Works
(South America, West Indies, Continental Europe, Northern Manchuria)
Philadelphia, Pa.

International Railway Supply Co.
(South America, Central America, Cuba, Mexico, China, Philippine Islands)
30 Church Street, New York City

G. D. Peters & Company, Ltd.
(Great Britain, Ireland, South Africa, India, Australia, New Zealand, Denmark, Spain, Portugal)
Caxton House, Westminster, London, S. W. 1, England
1001 New Birks Bldg., Montreal, Canada

Wilson Model S Welding Machine, one-operator electric-motor-driven Type 200 amperes, welding range 10 to 300 amperes.

INTERESTING *new features* give the Wilson Model S Machine the highest degree of efficiency yet obtained in arc welding equipment. Its frame is of angle iron construction, welded throughout, and made narrow for easy handling in shops. The improved reactor is mounted over the rear axle to protect it from injury. There are no live parts on the front of the modified control panel. A new rotary switch, together with a new design of field rheostat, afford very fine adjustments of the welding current. Exceedingly close regulation is available for strength welding, while a long arc with heavy current is available for rapid depositing of metal. Close control and quick recovery make the machine ideal for overhead welding, and the standard machine welds the thinnest sheet metal that the electric arc can handle. The Wilson Model S Welding Machines are equipped to give full welding range without extra apparatus or extra cost.

One-operator Motor Generator Set	Type 200 Amps., welding range		10 to 300 amps.
One-operator " " "	Type 300 Amps., "	"	15 to 400 amps.
Two-operator " " "	Type 400 Amps., "	"	10 to 300 amps. or 300 to 600 amps.
Two-operator " " "	Type 600 Amps., "	"	15 to 400 amps. or 400 to 800 amps.
One-operator Gasoline Engine Driven	Type 200 Amps., "	"	10 to 250 amps.
One-operator " " "	Type 200 Amps., "	"	10 to 300 amps.
One-operator " " "	Type 300 Amps., "	"	15 to 400 amps.
One-operator Belt Driven	Type 200 Amps., "	"	10 to 300 amps.
One-operator " "	Type 300 Amps., "	"	15 to 400 amps.

WILSON WELDER & METALS CO. INC., WILSON BUILDING, HOBOKEN, N. J.

WILSON

WELDING MACHINES AND WELDING WIRE

What do you want to know?

If it is a question of getting the most up-to-date gas booster on the market, you'll find the answer in the new "Hope 40" Horizontal.

And any questions that may occur to you on points of design, construction, economy, compactness, light weight, portability, all-around dependability—you'll find the answer in the new "Hope 40" Bulletin.

Write, today, for your copy of Bulletin 401.

The HOPE 40

ENGINEERS CONTRACTORS

HOPE ENGINEERING AND SUPPLY COMPANY

DESIGNERS MANUFACTURERS

MOUNT VERNON, OHIO, U.S.A.

NEW YORK, N.Y. DALLAS, TEX. TULSA, OKLA. CASPER, WYO

Carolina-Texas Gas Well Showing Oil

Another Producer in Dale County, Kingsville Two-Year-Old 15-Bbl. Pumper Begins Flowing 2,400 Bbls., Half Oil

By B. D. Stevenson
Staff Correspondent, Southwest Texas

SAN ANTONIO, Tex., Feb. 13.—The second well in the Carolina-Texas gas field in Webb County is showing oil. Both wells belong to the Associated Oil Co. and are in the northwestern part of Survey 684. Last week it was reported that the B-1 Webster completed a year ago as a gas well and shut in since that time was opened and made considerable oil and only a few million feet of gas. Connected to storage it has been making about 40 bbls. of oil a day but showing a tendency to increase in both oil and gas. It is pinched in. Last week the Associated opened the B-3 Webster, two locations from the B-1, and it was standing 600 feet in oil. Both wells are at 3,029 feet. There are only five or six wells in the field drilled to that depth and Houston Oil Co. has some in that sand from which it has been drawing quite heavily for a year to supply its natural gas pipe line. In neither well is the amount of oil sufficient to create much excitement but it is an interesting development. The oil is high gravity running around 40 gravity.

In the Dale Field in Caldwell County, Texas has completed another producer and before this is in print may have still another. Its No. 6 Lackey blew in and made 150 bbls. and on the day this was written flowed 147 bbls. from 2,065 feet total depth. No. 1 Moore at 2,153 feet had a little oil in the bottom of the hole. It topped the Serpentine at 2,024 feet.

Kingsville Field

In the Kingsville Field the Humble's No. 2 Flato which broke loose on New Year's eve after being a 15-bbl. pumper for two years and began flowing about 2,400 bbls. of fluid half water and half oil is making now close to 1,000 bbls. of oil in addition to the water it is making. Last week it made 915 bbls. of oil one day and the next day 985 bbls. and fell off a little the next day. No pipe line runs are reported from the Kingsville Field. Humble owns all the oil and runs it through a 5-mile line to Ricardo and ships by rail to its refinery. The average of the field per day over a period of several days outside of No. 2 Flato was 40 bbls. from three wells in the lower part of the field, two of them on submerged land of the state in an arm of Baffin's Bay and the other east of this this arm of the bay one or two locations. From six wells in the north part of the field a half mile north and a half mile west of the wells on submerged land the daily average was 425 bbls. All of these wells are from 2,135 to 2,300 feet deep. No. 2 Flato is a half mile west of the wells on submerged land and a half mile south of the wells in the north part of the field and produces from a depth of 2,928 feet. It has about 228 feet of open hole, due to pulling the liner when the well clogged up last December, and a 26-foot sand at 2,730 feet and another sand at about 2,812 feet may be responsible for the increased production. Total production from the field now is close under 1,500 bbls. daily.

White Point Well Shot Out

In the White Point district the Saxet Oil Co.'s No. 7 Rachal, a gas well, after burning for 18 days was put out with a shot of nitro and a 10-inch stream of water and live steam. It had been shot out before but caught fire again. It has been putting gas into the Houston Gulf Co. line for six months when it developed a split casing and got loose. An effort is being made now to mud the well off.

Piedras Pintas Chance

In the Piedras Pintas Field in Duval County Humble has run into a sand at 4,502 feet in its No. 7 Walsh and will make a test. It had enough oil that it put quite a lot out on the ditch and some think it has a chance to make a well. The same week No. 4 Walsh, which was the discovery well of the field a few years ago at around 3,600 feet and nearly the only producer since completed, started to flow about 2 bbls. a day last week. It was a gusher for a few days after being completed and later was put on the pump and recently has been off production and the oil has accumulated in it. It is a salt dome country and some are convinced the dome still has a chance to make a field enough though it has been a grievious disappointment thus far.

Two completions are reported in the Luling Field last week of average size but they had no particular significance.

COMPLETIONS

Caldwell County

Magnolia Petroleum Co.'s No. 16 O. F. Starr, John Henry Survey, Luling Field, at 2,117 feet is a 32-bbl. well.

M. W. Koenig's No. 5 Tiller, John Henry Survey, Luling Field, at 2,121 feet is a 50 to 60-bbl. well.

Jim Hogg County

Magnolia Petroleum Co.'s No. 43 Merchants State Bank, Survey 415, Randado Field, at 1,251 feet is 10-bbl. well.

Webb County

Serna-Forrest's No. 1 Benavides, Survey 2,272, Block 2, Carolina-Texas gas field, at 2,030 feet is 5,000,000-foot gasser with 550 pounds rock pressure.

ABANDONED TESTS

Guadalupe County

H. H. Temple's No. 1 McAllister, Edward Kellett Survey, at 2,287 feet has rig moved off and casing left in hole, may deepen to Trinity; test is now down 173 feet in Edwards.

Live Oak County

J. A. Harper's No. 1 Nichols 150 feet north of the Frio River, at 1,800 feet is abandoned with 4 feet of gas sand at 1,142 feet and will skid rig and drill another test to test the 1,142-foot sand.

San Patricio County

Mission Drilling Co.'s No. 1 Morris, 2½ miles north of production of the White Point Field, at 3,000 feet has been abandoned dry.

Pargee Petroleum Co.'s No. 1 Beall, wildcat test near Mathis, has been temporarily abandoned at 2,825 feet.

John Sigmund's No. 9 Robinson has been abandoned around 2,245 feet and derrick has been skidded over for another test on shallower structure 60 feet to the south.

Webb County

Ritchison and others' No. 1 Wheatley, Survey 1,570, Block 2, Reiser Field, location only, has been abandoned.

New Locations

W. O. Wheatley's No. 3 Wheatley, Survey 1,618 Block 12, Reiser Field, Webb County, has been spudded in and is down 126 feet.

Cole Petroleum Co.'s No. 53 Benavides, Survey 412, Block 3, Cole Field, Webb County, is rigging up.

Deckle & McCarley's No. 1 Garcia, Survey 918, Starr County, which has been standing since last summer is preparing to resume drilling.

John Sigmund is skidding derrick 60 feet south from No. 9 Robinson to shallow structure in San Patricio County for another test.

Cole Gas Field—Duval

Houston Oil Co.'s (Roxana) No. A-3 Benavides, Survey 11, Block 41, located 315 feet to northeast lines and 200 feet to northwest lines, at 2,330 feet is setting casing estimated at 40,000,000 feet. Houston Oil Co.'s (Humble) No. 2 Juan V. Cuellar, Share 1, Cuellar Grant 475 feet the west line and 2,258 feet to north line, has derrick up. Houston Oil Co.'s (Sun) No. B-4 Benavides, Survey 12, Block 13, located 660 feet to north and east lines, is location.

Humble-Reiter-Foster Pool

Humble Oil & Refining Co.'s No. 7 Kohler, Survey 165, located 200 feet to north and west lines, is drilling at 1,491 feet.

Piedras Pintas Dome

Humble Oil & Refining Co.'s No. 7 Walsh, Survey 185, located 2,050 feet to east line and 1,750 feet to north line, is drilling at 4,502 feet.

Driscoll Gas Field

R. Driscoll's No. 9 Driscoll, Survey 23, located 1,875 feet to west line and 2,850 feet to south line, at 2,549 feet tested dry and is deepening; No. 10-A Driscoll, Survey 448, located 1,070 feet to east line and 2,758 feet to north line, is drilling at 1,500 feet.

Randado Field—Jim Hogg

Johnson and others' No. 24 Palacious, Survey 291, Block 14 located 150 feet to east line and 726 feet to north line, is location. Magnolia Petroleum Co.'s No. 34 Merchants State Bank, Survey 415, located 150 feet to east line and 726 feet to north line, is location. Magnolia Petroleum Co.'s No. 34 Merchants State Bank, Survey 415, located 1,900 feet to west line and 2,150 feet to north line, is coring at 1,247 feet.

Henne, Winch & Fariss Field

Edward St. Alban's No. 9 Lopez, Share 1, Block 6, located 291 feet to east line and 180 feet to south line, is standing at 2,144 feet.

Alworth Field

Alworth-Stevens-Hild's No. 11 M. Garza, Survey 39, Block 10, located 310 feet to northwest lines and 460 feet to southwest lines, is moving on.

Reiser Field—Webb

Ritchison and others' No. 1 Wheatley, Survey 1570, Block 2, is location.

Leaseholders Field

J. H. Winch's No. 1 A. E. Gates, Survey 70, located 1,470 feet to south line and 1,170 feet to west line, is drilling at 1,471 feet.

Aviator or Bruni Tracts

Livingston and others' No. 1 Puig, Block 5, Edgington subdivision, 150 feet to north and west lines, is laying water line and is ready to spud in.

Carolina-Texas Gas Field

Houston Oil Co.'s No. 3 S. Benavides, Survey, 683, located 350 feet to north line and 1,470 feet to east line, is at 3,014 feet rigged up to deepen and waiting on orders. Serna-Forrest's No. 1 Benavides, Survey 2272, Block 2, located 150 feet to north line and 200 feet to east line, at 2,030 feet is estimated good for 1,000,000 feet with 500 pounds rock pressure.

Luling Field—Caldwell

Magnolia Petroleum Co.'s No. 11 W. J. Tiller, John Henry Survey, 300 feet southwest of No. 5, is drilling at 2,060 feet. Pat M. Armstrong's No. 1 Hardeman, Miles G. Dykes Survey, 150 feet to

(Continued on Page 114)

OIL SHOWING IN NEW GAS FIELD REPORTED FROM DUVAL COUNTY

By B. D. Stevenson

SAN ANTONIO, Tex., Feb. 13.—Robert Driscoll, ranchman and capitalist, who opened a new gas field in Duval County on his 50,000-acre ranch with his No. 8 Driscoll after a couple of years of drilling has a showing of oil in his No. 9 Driscoll at 2,939 feet. No. 8 made a gasser at 2,469 feet and at that depth No. 9 picked up salt water. No. 9 is located a few hundred feet northeast of No. 8. No. 10-A, located a few hundred feet northwest of No. 8 has a gas showing at the same depth approximately as No. 8 and has set casing and will complete the well. National Oil Co. is the only other operator at present drilling in that part of the county and it has a well a few miles east on the Ball ranch down below 1,060 feet and drilling. The geologist who made the location for the National well believes it is on a salt dome and with different geology from the Driscoll ranch wells.

Abandonment of some wildcat tests up through the Balcones fault zone northeast of San Antonio was among the happenings of the week. The Texas Company abandoned its Robuck well in Caldwell County at 2,521 feet after topping the chalk at 2,516 feet. Charley Hirtz abandoned No. 1 Parr in northern Caldwell at 1,422 feet after topping the chalk at 1,392 feet and Dickinson & Smith abandoned No. 1 Callahan at 2,406 feet. H. H. Temple abandoned No. 1 McAllister in Guadalupe County at 2,291 feet and in the Edwards.

Gas at 1,142 feet in No. 1 Nichols of J. A. Harper and others in western Live Oak County and only a little east of the Grubstake or Calliham Field, calls for another test and the possibility that a new gas area and a new sand may be developed in that part of the country. No. 1 Nichols was carried to 1,800 feet where it is being abandoned. The operators wanted oil and not gas. Failing to get oil they are going to try now and develop the gas which showed up in 4 feet of sand. Gas in the Grubstake Field was had at about 873 feet and oil at 750 feet. No. gas is being used from the Grubstake Field at this time as the pressure on the wells is too reduced. Harper will skid his rig soon and spud in another hole. Only one other rig is operating in the field now. Houston Gulf Gas Co. which owns the Grubstake leases, is drilling a deep test a few miles west of Harper. George B. Pickett, however, is planning to go back into that part of the counuty and drill again.

In Dimmit County Humble is getting ready to abandon No. 1 City National Bank at 5,004 feet. It will pull casing and test some sands passed through in drilling the well but if none of them develop anything the hole will be abandoned. Rycade Oil Corp. in Maverick County, the next county west of Dimmit, is down 3,575 feet in No. 2 Chittim.

Starr County

The Texas Company's No. 1 M. Guerra, Porcion 68, Block 91, is location; No. 1-A V. Guerra, Porsion 68, Block 92, is location. Kusch Exploration Co.'s No. 1 Frank Doyno and others', Porcion 75, Block 13, is standing at 450 feet. Clark & Woodruff's No. 1 Kelsey, Porcion 76,

(Continued on Page 130)

Let Nothing Keep You Away From This Protection When You Use a Wire Line!

WILLIAMSPORT WIRE Telfax Tape Marked Factory Certified LINES

May save you many times their cost because they show their strength in Plain English. The "Telfax" ribbon woven throughout the hemp core is put there by a man who KNOWS the grade of steel that goes into each line.

It costs nothing to get and may prove of great value to you.

WHY TAKE CHANCES ON A FISHING JOB with unmarked ropes of uncertain grade? Use Williamsport and be *sure!*

WILLIAMSPORT WIRE ROPE COMPANY

Main Office and Works: Williamsport, Pa.

General Sales Offices: 122 S. Michigan Ave., Chicago, Ill.

Oil Country Sales Offices: Williamsport Bldg., Fourth and Midland Valley Tracks, Tulsa, Okla.

Distributors

Houston Mildred Shidler Blackwell Ardmore Holdenville Bristow Wichita Falls Bartlesville
Smackover Arkansas City Cromwell Shreveport Casper Lewistown Electra

Distributed by the Bridgeport Machine Company, Wichita, Kansas, and all of their Mid-Continent Branches

Use Madesco Tackle Blocks, They Stand the Gaff

Get Two Producers on Nash Dome

Two Wildcats in Hackberry Dome District, Louisiana, Are Keeping Cameron Parish in the Limelight

By Neil Williams
Staff Correspondent, Gulf Coast Fields

HOUSTON, Tex., Feb. 11.—Two good producers at Nash Dome, extreme southern Fort Bend County, one of southeast Texas' newest fields, were among the most important developments in the Gulf Coast the past week although a near blowout in a wildcat on the old Hackberry Dome in Cameron Parish, Louisiana, and the reaching of the producing level by another wildcat at East Hackberry, 2 miles to the northeast, is keeping that district in the foreground.

The two new wells at Nash Dome, Rycade Oil Corp.'s Nos. 18 and 21 Wisdom, put that field further to the front when they swelled the production there with a total daily initial production of 2,196 bbls. With these two wells the total flow at Nash Saturday was 3,046 bbls. This was partly responsible for the substantial increase in daily average production for Gulf Coast fields during the week.

The near blowout on the old Hackberry Dome was in C. O. Noble and associates' No. 1 Ellender. The test started blowing gas with a heavy showing of oil while drilling at 4,337 feet in an uncased hole. A blowout preventer kept the gas under control. Efforts now will be made to ream and run casing.

The Noble test is not the first to have encountered showings on the old Hackberry Dome but being on an entirely different flank of the dome some distance from where considerable drilling has been done in the past few years without success offers possibilities that the Noble test might have tapped the pool.

More than 60 tests have been drilled by various operators, principally Yount Lee Oil Co., on the other side of the dome and several have had good showings but none has made a well. The Noble test is to the southeast and a rank wildcat.

Hackberry Dome Tests

On the East Hackberry Dome, 2 miles to the east and north, which is claimed to be an entirely distinct salt dome discovered early in 1927, Calcasieu Oil Co. has another test, the No. 1 Watkins, down to the producing level tapped by the other two producers completed on the dome since November.

Operators now are watching the outcome of this test as it is 217 feet north of the discovery well, which came in flowing 1,000 bbls. of pipe line oil, and will give a better insight into the importance of the East Hackberry Field. The second well which flowed 1,800 bbls. initially was 100 feet west and 40 feet south on the other side of the discovery well.

Sorrento Dome

Interest of coastal operators still is centered on the Sorrento Dome, east of the Mississippi River in Ascension Parish, where Gulf Refining Co. has what is termed the "hottest" discovery in many months. The wildcat, No. 4 United Land Co., still has not been opened except for a few minutes since it made its initial flow at the rate of 4,000 bbls. daily. Opening of the well is waiting the erection of storage and other facilities for handling the oil which is a serious problem in that district which lies in one of south Louisiana's boggiest marshes. To get the material in is necessitating the difficult building of a 5-mile roadway through the swamps and then erection of the storage in the swamps presents obstacles. Gulf officials state it will be several weeks before the well can be opened.

At Sweet Lake, on the east side of Calcasieu Lake in Cameron Parish, Pure Oil Co.'s No. 5 Sweet Lake which came in flowing 1,500 bbls. daily of pipe line oil continued to produce the past week at an average of 600 bbls. daily of net oil from the sand at 5,562-5,660 feet. The initial production was through a half-inch choke but this was reduced through a quarter-inch choke. Pure Oil has another test at Sweet Lake which is in a deeper sand at 5,921 feet and now its outcome is being watched. In its history since October, 1926, Sweet Lake has had three producers but only the latest is flowing at the present time.

Taking on New Life

With several promising new fields on the horizon and with drilling for deeper sands in old fields becoming more active, the Texas Louisiana coastal territory apparently is taking on new life. The search for deeper sands is more active, particularly at Goose Creek, Harris County, where the Gulf Production Co. and the Humble Oil & Refining Co. are going into their old well. The latter company alone is working over and deepening seven of its old wells.

Active drilling also has been started the past few weeks on the north side of the South Liberty Pool where the Yount Lee Oil Co. recently extended production more than 200 feet with a 200-bbl. well. Since that extension, five other tests have been started there.

Rycade Oil Corp. is starting three more tests at Nash Dome, Fort Bend County, following the completion the past week of its two good producers. One of these tests, the No. 24 Wisdom, will be a west extension, being 300 feet west of the No. 21, one of the two wells completed.

The Sulphur Field of Calcasieu Parish, Louisiana, which has been inactive for some time, also has two new tests starting. Union Sulphur Co. during January worked over one of its old wells and got a good producer.

Allen Dome Tests

Allen Dome in southern Brazoria County is another spot being watched. Roxana Petroleum Corp., sole operator on this dome, has four tests there, one of which is being put on the pump after a month of attempts to make a flowing producer. Another test blew in several weeks ago making an estimated 50,000,000 feet of gas but this production soon stopped and as the week closed efforts were being made to bail the well back in. It had been reported that this well blew in flowing at the rate of 1,000 bbls. daily but it really made at that time only 7½ bbls. While being bailed Saturday it made 14 bbls., bailing mostly heavy mud and fine sand. A third test blew out, causing the hole to cave and at present the drill stem is stuck.

The fact that results on some of these domes have not been favorable of prolific new oil is not discouraging as the nature of salt dome fields is such that years of prospective drilling sometimes are required before the productive spot is tapped.

Included among the late good completions of the week was a well at Pierce Junction, south of Houston. This was Gulf Production Co.'s No. 23 Taylor, which came in Saturday flowing 1,500 bbls. of oil from sand at a total depth of 4,720 feet.

Wildcatters Spreading

Wildcatters are spreading out in coastal counties. A new test is being started in Nacagdoches County, to the north of the coastal tier. This will be Stein & Lewis' No. 1 Birdwell, 5 miles southwest of the town of Chireno. Union Sulphur Co. also is starting a new wildcat, No. 1 Crumpit, in Tyler County, 14 miles east of Colmesneil.

Production Gains

For the first time in many weeks, daily average production in Gulf Coast fields is on the increase. The total daily average for the week ending February 11 was 121,801 bbls., or a gain of 4,240 bbls. over the daily average of the preceding week. Spindletop's production increased 2,078 bbls. in daily average and this figure would have been greater if two good wells brought in by the Yount Lee Oil Co. had held up. Daily average production in southwest and central Texas fields continued almost steady. Daily averages by districts and fields for the week ending February 11 were:

Spindletop	41,445
Sara.oga	1,032
Batson	1,352
Goose Creek	7,495
Sour Lake	3,549
Hull	11,446
Big Creek	1,891
Columbia	9,270
Humble	3,185
Pierce Junction	8,863
Blue Ridge	5,093
Markham	200
Orange	3,866
Damon Mound	835
South Dayton	241
South Liberty	1,842
High Island	41
Moores Field	197
Boling	2,087
Nash Dome	2,993
Barbers Hill	600
Vinton	4,469
Starks	278
Edgerly	1,697
Evangeline	960
Lockport	5,181
Sweet Lake	600
Sulphur	270
Hackberry	823
Total this week	121,801
Total last week	117,561
Increase	4,240

Southwest Texas

Somerset	2,182
Lyt'on Springs	1,549
Dale	731
Luling	14,290
Miscellaneous	7,925
Total this week	26,677
Total last week	26,614
Increase	63

Central Texas

Mexia	7,936
Cedar Creek	960
Nigger Creek	1,060
Currie	513
Wortham	2,120
Richland	591
Powell	12,527
Total this week	25,707
Total last week	25,838
Decrease	131

Spindletop—Jefferson County

Two wells brought in by the Yount Lee Oil Co. during the week totaled approximately 3,500 bbls. in initial production but the flow in neither held up long, one well going completely dead while the other dropped to around 200 bbls. Both wells were on the McFadden lease in the main part of the field. This company is starting another new test there, the No. 56 McFadden.

Neither Gulf Production Co. nor Sun Oil Co. had any completions, but at the close of the week the former had set strainer and was trying to swab in No. 7 Jack & Duff, which was in an oil sand at a total depth of 4,940 feet. Gulf's No 8 on the same lease is drilling at 4,860 feet. No. 18-A Marrs McLean is drilling at 5,110 feet and No. 13 Oakwood at 994 feet. The latter is an offset to Sun Oil Co.'s No. 11 McLean, which was completed the latter part of January flowing 2,500 bbls. Gulf's No. 10-A Marrs McLean has drill stem stuck at 5,175 feet.

Magnolia Petroleum Co.'s No. 7 fee is drilling around 5,120 feet, while Rio Bravo Oil Co.'s No. 54 T. & N. O. is down 4,200 feet. Sun Oil Co.'s No. 1 Coit is drilling below 5,050 feet, its No. 20 Marrs McLean below 4,900 feet and No. 2 Price below 5,400 feet. Sun has set strainer in No. 19 McLean at 5,125 feet. It also has a rig up to deepen No. 16.

The Texas Company has started a test, No. 1 Gladys City, which is about 200 feet north of the nearest drilling test in the southwest and west flank extension to the field. It is about 400 feet north and some west of the nearest extension production. It is 25 feet from the south line and 25 feet from the east line of Lot 61, J. A. Veatch Survey.

Battleship Oil Co.'s No. 3 Parker, an extension test on the northeast of the field, is drilling around 3,000 feet.

Blue Ridge—Fort Bend County

Blue Ridge's sole completion of the week was Gordon & Sharp's No. 2 Blakely which came in flowing by heads at the rate of 100 bbls. daily from sand at a total depth of 1,856 feet. Navarro Oil Co. is swabbing its No. 1-A Robinson but at the close of the week had not been able to bring that test in. It is in sand at 3,678 feet. Sam Watts and associates have set strainer at 3,210 feet in their No. 3 Blakely and will make a test. Blakely & Means are drilling at 2,825 feet in No. 1 Blakely. H. R. Cullen's No. 1 Lafferty is drilling around 1,275 feet. The latter operator's No. 1 Davidson is down 2,330 feet while his No. 1 Luscher is starting to drill. Cunningham Production Co.'s No. 4 Blakely is drilling around 3,030 feet. H. B. Gordon has set strainer in his No. 2 Blakely to test a sand at 3,120 feet. Gulf Production Co.'s No. 11 West Schenck is drilling at 4,618 feet and its No. 11 Luscher at 2,920 feet.

Big Creek—Fort Bend County

No wells were completed at Big Creek but The Texas Company's No. 3 Wheat is drilling around 3,725 feet. Gulf Production Co., at present the only other drilling operator in the field, has three holes drilling, the No. 36 Davis, down 3,584 feet; the No. 24 Davis at 2,850 feet, and the No. 45 Davis at 2,700 feet. The first two of Gulf's tests are old wells being deepened.

Boling—Fort Bend and Wharton

A check at Boling by oil companies the past week revealed that 25 shallow tests, not previously reported to the companies, had been completed or abandoned the past month. The majority of these were tests drilled for sulphur in the shallow cap rock area on the Wharton County side. Three of these tests made small oil producers: Benson & Abercrombie's No. 4 Waytek, 250 bbls., 423 feet; Weed-Gayle Oil Co.'s No. 6 Bay, 300 bbls., at 430 feet, and the same operators' No. 11 Bay, 250 bbls. at 439 feet. The remainder of the 25 tests were abandonments, including two by Benson & Abercrombie; two by Hyde Production Co., one by Patterson & Hyde, and 17 by Texas Gulf Sulphur Co.

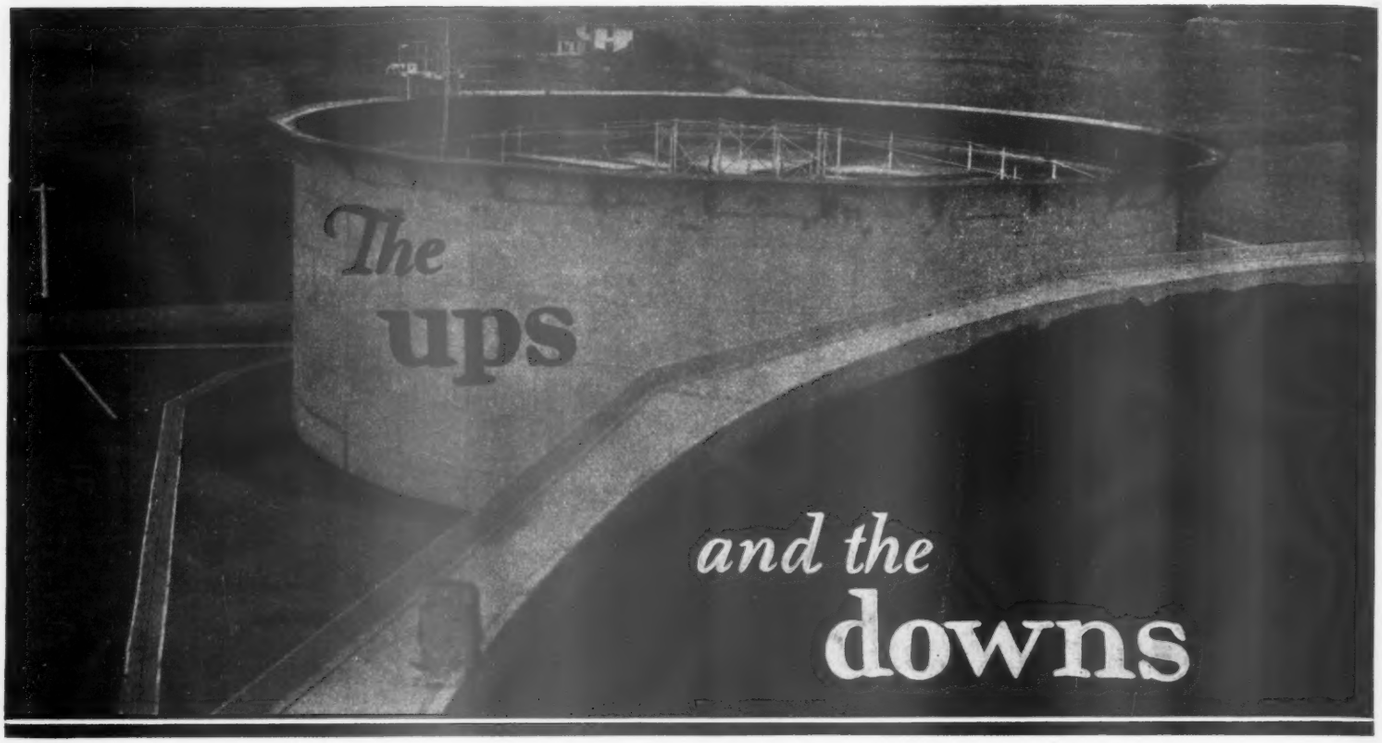
Hyde Production Co.'s No. 1 Fojtek, Wharton County, is drilling around 3,100 feet. Southern Exploration Co.'s No. 1 Mullins is down 3,862 feet. These two tests are to be deep tests of Boling.

On the northeast flank in Fort Bend County, Sun Oil Co.'s No. 5 H. R. Farmer is drilling at 690 feet. A derrick is up for No. 6 on the same tract and No. 7 is drilling at 675 feet. On the J. R. Farmer tract, Sun's No. 5 is drilling below 3,000 feet, No. 6 at 525 feet and No. 7 at 535 feet. No. 2 Kasparek is down 500 feet.

Nash Dome—Fort Bend County

Boosting Nash Dome's standing are Rycade Oil Corp.'s Nos. 18 and 21 Wisdom, which came in as good producers during the week. No. 18 made an initial flow of 1,146 bbls. daily of pipe line oil from sand at 4,251 feet while No.

(Continued on Page 106)



# of a Wiggins Floating Roof

UP AND DOWN—up and down—that's the way a Wiggins Floating Roof works.

Up when the oil is high in the tank—down when the oil is low.

Riding directly on the surface of the oil—always blanketing it—never permitting air to come in contact with the oil.

But this roof is always "up" in evaporation savings. Records show that for many installations more than 98% of the evaporation loss with ordinary gastight roofs has been stopped when the Wiggins Floating Roof was applied. It has been used effectively on all classes of oil storage although its greatest savings are naturally shown on working tanks.

And it's always "down" in fire hazard. The unique principle by which the space between the floating deck and the tank shell is sealed prevents fire from reaching the oil.

The Wiggins Floating Roof will keep your profits up and your losses down. Let us give you estimates on roofs for either old or new tanks.

CHICAGO BRIDGE & IRON WORKS

CHICAGO—2128 Old Colony Bldg.
NEW YORK—3147 Hudson Terminal Bldg.
CLEVELAND—2204 Union Trust Bldg.
DALLAS—1641 Dallas National Bank Bldg.
ATLANTA—1054 Healey Bldg.
SAN FRANCISCO—1054 Rialto Bldg.
HAVANA, CUBA—Apartado 2507

FLOATING *for working storage*

WIGGINS ROOFS

BREATHER *for standing storage*

OilGJ 2-16 Gray

Interest Renewed in the Iles Dome

Midwest Well Averages 72 Bbls. Hour. From 63 Feet in Sundance, More Saturated at Depths Not Before Tested

By Tolbert R. Ingram
Staff Correspondent, Rocky Mountain Area

DENVER, Colo., Feb. 11.—In Colorado, interest has been renewed in the Iles operation in Moffat County as a result of the performance of the Midwest Refining Co.'s No. 34-SD Parkinson, which is averaging 72 bbls. an hour from 63 feet of Sundance sand, showing that sand to be more porous and more highly saturated at depths previously not tested on the structure. The discovery well, which has been beaned down to 450 bbls. a day since last April, was opened to capacity this week and flowed at the rate of 3,600 bbls. a day. The Repollo Oil Co.'s test in Boulder County probably will be abandoned. Drilling has been suspended in the Northeastern Colorado Oil Co.'s test on the Willard Dome in Logan County in the Lakota sand at 5,563 feet. Union Oil Co. of California is testing the lower horizons in two wells on the Fort Collins and Wellington Domes in Larimer County.

In Utah, the Midwest Exploration Co.'s No. 3 Ashley Creek, in Uinta County, encountered a flow of 29,000,000 feet of gas in the Morrison sand at 1,663 feet and is drilling ahead towards the Sundance. Tertiary formation tests in northeastern Utah are attracting some attention and F. J. S. Sur describes the Eocene as marine and semimarine in that area and of a different type from that on the eastern flank of the Rocky Mountains.

In New Mexico, the Arena Oil Co.'s No. 1 Wilkins in Chaves County, had a flow of 1,000,000 feet of gas at 2,575 feet in wildcat territory. The Getty Oil, Inc.'s No. 1 Nicholas in Eddy County showed for 100 bbls. in a swabbing test at 1,378-82 feet, and Levers & Carper's No. 5 State has been completed as a 10-bbl. well.

In Wyoming, there was one completion in Salt Creek which has not been tested, and on the Oregon Basin structure in Park County, the Ohio Oil Co. found the Embar sand saturated in its No. 1 Baston on the south dome, proving the horizon below the gas to be oil bearing. Cody Petroleum Co.'s No. 1 Klindt, on the north dome, made 500 bbls. in 24 hours and again was mudded off with 120 feet to go before reaching the horizon where the big pay is expected.

Colorado

The interest in the Iles Dome operation in Moffat County, Colorado, has been increased greatly as a result of the developments in the most recent completion, the Midwest Refining Co.'s No. 34-SD Parkinson, SE SW, Section 22-4n-92. This well entered the Sundance sand at 3,227 feet and is now bottomed at 3,290 feet, 63 feet into the sand which shows saturation all the way to the bottom. While drilling was in progress it flowed as high as 2,000 bbls. in a day and for several days has averaged 72 bbls. an hour, or at the rate of 1,728 bbls. daily. It is considered the best well so far completed in the Sundance, though it is not the largest producer, its record being exceeded by the discovery well completed last April. However, the discovery well drilled into the sand without shutting off the gas from the overlying Morrison, while No. 34-SD is producing from the Sundance with the gas in Morrison cased off. The important feature of the new well is the thickness of the saturated sand so far drilled and the better sand conditions.

Six wells have been drilled on the structure to horizons below the Dakota and all were producers. Of these four are Sundance sand wells and two are producing from the Morrison. In all of these wells, with the exception of the discovery, the sand in the top of the Sundance was very hard and tight and did not yield the quantity of oil expected. The hardness of the formation and the temperature made the operators hesitate in drilling more than 20 to 25 feet into the sand. However, No. 34-SD was carried down to explore the lower horizons and at 3,253 feet the formation softened up and was found to be more porous. The well commenced flowing and continued to increase in production and also in gas pressure with deeper drilling. The first drilling was in gray sand which changed at 3,253 feet to a white sand. The question now has been raised as to whether some of the so-called Sundance sand wells are really in that horizon with the result that one or two of them will be deepened. There is no doubt but that the new developments make the pool much more promising than it was considered when the first wells were drilled.

Discovery Well Opened

Another feature of the week on this structure was the opening up of the discovery well in the Sundance, the Midwest Refining Co.'s No. 21-SD Parkinson, SW SE, Section 22-4-92, which was drilled in last April at 3,242-44 feet, making 2,575 bbls. in 24 hours and averaging 2,600 bbls. in a 20-day test run through a 2-inch flow line. It was then beaned down to 450 bbls. a day where it has been held until the past week. It had been decided to go back into the well and set a string of casing on top of the Sundance so as to produce that horizon independent of the Morrison as recommended by the United States Geological Survey. When opened to full capacity the past week it flowed at the rate of 3,600 bbls. a day. It probably will be drilled a few feet deeper into the sand before being completed.

Other operations on the structure are as follows: Midwest Refining Co.'s No. 8-SD Parkinson, NW NW, Section 23-4-92, fishing at 1,770 feet. Same company's No. 7-SD Parkinson, NW NW, Section 23-4-92, drilling in brown shale at 2,202 feet. Texas Production Co.'s No. 17 State, NW SE, Section 15-4-92, drilling at 1,510 feet; No. 6 Parkinson, NW NW, Section 23-4-92, drilling out cement at 2,586 feet; and No. 13 Parkinson, NE SW, Section 22-4-92, cleaning out at a total depth of 1,440 feet. Shaffer Oil & Refining Co.'s No. 205 Yarg, NW NW, Section 26-4-92, joint with the Yarg Producing & Refining Co., drilling at 3,420 feet in the green shale break between the Dakota and Lakota sands and carrying the 8¼-inch. Alliance Oil Co.'s No. 1 Milliken, SW cor., Section 14-4-92, drilling at 850 feet.

May Be Drilled Deeper

As a result of the improved sand condition found in No. 34-SD Parkinson on the Iles Dome, it is probable that the Texas Production Co.'s No. 10 Knowlton, Section 33-5-91, Moffat Dome, will be gone back into and drilled deeper. This well, the only Sundance sand test made on the Moffat Dome, was completed last month in what was supposed to be the Sundance at 4,400-26 feet, and is making around 100 bbls. a day. The same hard gray sand encountered in the Iles Dome wells is yielding this production in the Moffat well. The geological department has recommended deeper drilling on the theory that conditions are similar to those found in the Iles wells, but a final decision has not yet been made. Otherwise, there is no operation in progress on the Moffat Dome.

The Union Oil Co. of California is expected to drill another test somewhere near the boundary between Moffat and Rio Blanco Counties, 20 miles south of Hayden, at an early date. The structure is supposed to be where Ruff Creek enters into Poose Creek. Intentions of the company were made known by the arrival of a rig at Hayden. Officials state that they are not ready to give out the location yet, as it has not been definitely decided, and that the rig was moved in at this time while the snow was hard and could be transported on sledges. The test will not be drilled until next summer.

In Rio Blanco County, the Texas Production Co.'s No. 1 Freeman, Section 27-3n-94, on the Wilson Creek Dome, is bottomed at 5,316 feet and cleaning out. This test is supposed to be near the top of the objective Dakota. The Midwest Refining Co.'s No. 2 Rangely, Section 30-2n-102, Rangely Dome, is running 4¾-inch casing at 3,427 feet. It is supposed to be bottomed in the lower Dakota and to be making around 20,000,000 feet of gas and spraying 10 bbls. of oil. The hole is full of mud to hold back the gas.

A new operation about which little is known is reported to be starting the southeastern corner of Delta County, on the Henry Welborn farm, at the western edge of the town of Crawford. A rig was set up there the past week and drilling commenced, but so far the identity of the operator or the exact location of the well has not been learned.

Southwestern Colorado

In southwestern Colorado, there is not much activity. The Coon-Cotton Syndicate's No. 1 Hall, Section 9-35-13, on the Mancos structure in Montezuma County, is reported shut down at 1,400 feet in the upper Dakota where water and a show of oil was encouuntered. The machine is said to have about reached the depth it is capable of drilling and it will be necessary to install a heavier rig to test the lower horizons. The Detroit Oil Association's No. 1 Olbert, Section 9-35-12, La Plata County, is reported drilling at 1,610 feet and preparing to run casing to shut off water in the Dakota sands. The Dakota formation was cut at 1,325-1,545 feet. In Dolores County, the Moody Oil Corp.'s test on the Glade structure is still shut down at 3,800 feet and probably will not resume until spring.

An attempt was made this week to make a test of the water showing in the Repollo Oil Co's No. 1 Nichols, Section 32-1n-70, on the Parallel Dome, in Boulder County, which was reported last week to be in the Dakota at 6,137-45 feet. The bailer stuck and the hole has caved, and it is probable the test will be abandoned at this depth. The water had risen 1,700 feet in the hole when the test was attempted. The water at first was cold and different from that shown in most of the front range tests, but after it had risen up in the hole it was found to be warm and salty. It has not yet been decided whether the Essok Oil Co.'s No. 1 Martin, Section 5-1s-70, on the same structure will be drilled down for a test. It is 120 feet higher on the structure and is bottomed at 5,225 feet.

The mystery surrounding a deep test started recently 60 miles southeast of Denver, near the station of Buick on the Union Pacific Railroad, in Elbert County, has at last been cleared up. The well is located in the SE cor., Section 1-8s-59, 220 feet from the corner, and is being drilled by J. M. Botts, Ira Lillick and associates of San Francisco, on a structure discovered and leased by F. E. Goodale of Denver. The checking was done by William J. Beages, of Los Angeles, and Charles A. Culter, of Golden, Colo. The Dakota, expected at around 3,000 feet, is the objective. The well started in a 20-inch hole and is drilling

SEVERAL COMPANIES PLAN TESTS IN THE MUSKEGON, MICHIGAN, AREA

By Special Correspondent

MUSKEGON, Mich., Feb. 11.—The formation of three new development companies, including not only Muskegon business men but also outsiders interested in the possibilities of the development of a profitable oil field in the vicinity of Muskegon, Mich., the placing of two new rigs on property within a short distance of the discovery well by two companies not previously represented in the field and the rapid decrease of production in this first well of the Muskegon Oil Corp. are the principal developments since the discovery well came in Thursday, December 22.

Frank L. Maire, president of the Lima Oil Co. of Lima, Ohio, this week took up an option on about 7,000 acres of property throughout Muskegon County held by a local syndicate. The consideration for this block of leases was $5,000 at the time of their assignment to him and another $5,000 if the first of three wells he agreed to drill on the property produces 50 bbls. a day after the first 30 days or 15 bbls. every 24 hours after the first 90 days of production.

Mr. Maire has purchased two standard drilling rigs in Saginaw, both of which will be brought here within the next week to start drilling operations. The first well must be placed on the property adjoining that on which the discovery well is located. The discovery well is on the E half of the NW of the NW of Section 9-10n-16w, or Muskegon Township.

Mr. Maire and his associate, Charles H. Caswell, also acquired a two-thirds interest in 5,000 additional acres under lease to the Citizens Land & Oil Co., another local syndicate. The local group retains the one-third interest. The property lies in 12 of the 17 townships in Muskegon County.

J. B. Reed, a Saginaw, Mich., contractor, has formed a new syndicate and moved one of the two standard cable rigs which he now has on the ground to the property of George H. Shoup, a Muskegon business man. Mr. Shoup is interested in the syndicate. Drilling will be under way next week on the well which is to be located 1,000 feet south of the north line and 1,000 feet east of the west line of Section 8-10n-16w, on the NW of the NW.

Setting Up Rig

The Johnson Oil Refining Co. of Chicago has engaged Hagan and Hagan, Saginaw contractors, to drill its first well in the Muskegon Field on the property of Joseph Cihak, about a mile directly east of the discovery well. A standard rig has been shipped here from Saginaw and is now being set up on the property preparatory to drilling.

Drilling of the Muskegon Oil Corp.'s No. 3 well on property adjoining the site of its No. 2 has reached a depth of 950 feet, while production of the discovery well has dropped to 70 bbls. daily.

The discovery well, which is believed to be but 4 feet in a Traverse formation of 37 feet in thickness, has decreased in production during the 45 days since it

(Continued on Page 111)

You Can "Bank" on its Performance

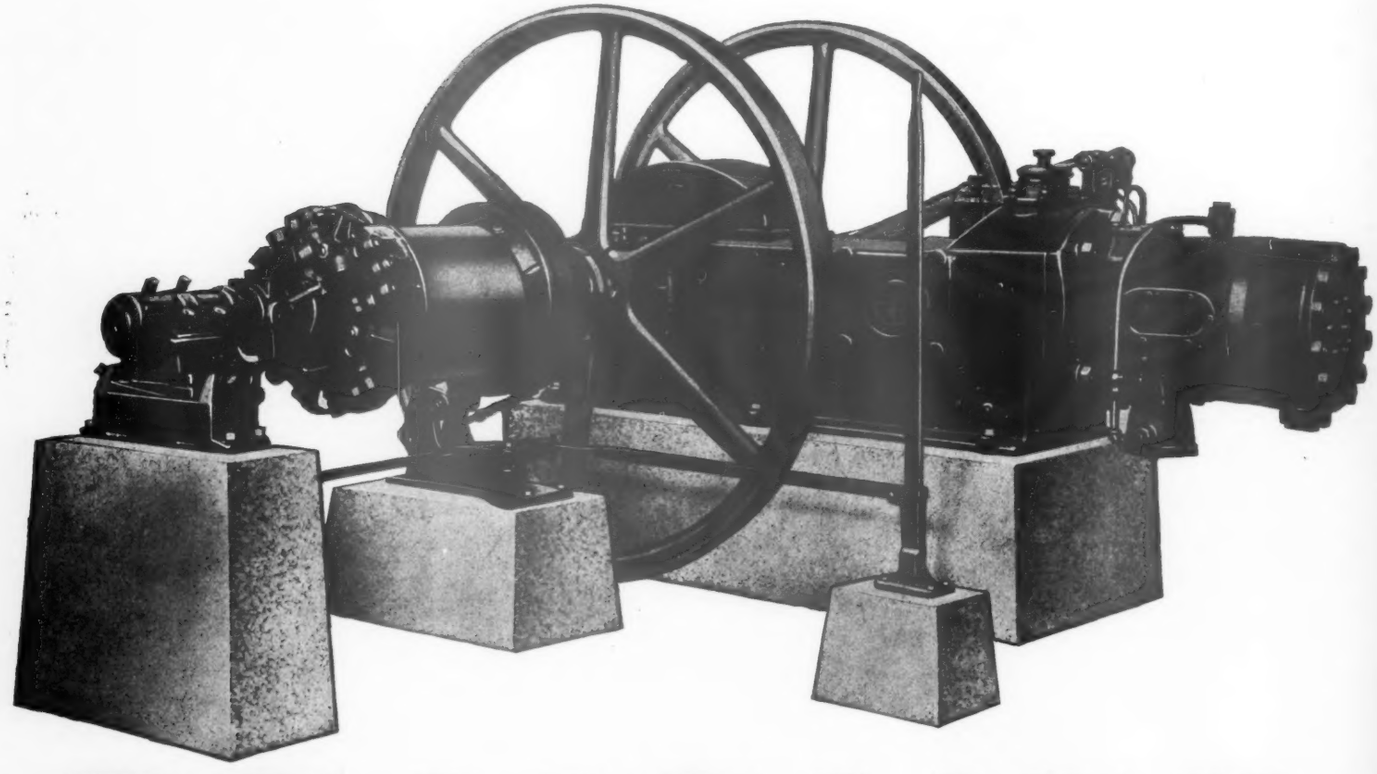
NO OTHER OIL FIELD ENGINE will give you such outstanding performance, such sheer economy as a Bessemer.

It is a power plant whose performance yon can literally "bank" on. Low operating and maintenance expense coupled with low depreciation mean dollars in the bank—and you can depend on its always being on the job when you want it; there is no dollar leakage because of continual enforced shutdowns.

"Brought up" and developed in the Oil Fields by oil men, for oil men, the Bessemer Type O. F. is an oil man's power plant in every sense of the word—simple, staunch, reliable, and economical.

Bessemer Oil Field Engines assure the utmost value from your oil field power equipment dollars, as you can prove to your own satisfaction by investigating their performance records.

THE BESSEMER GAS ENGINE COMPANY
52 York Street ∴ ∴ Grove City, Pa.



BESSEMER

BESSEMER OIL FIELD ENGINES – COMPRESSORS VACUUM PUMPS – ROLLER PUMPING POWERS

with a 17-inch bit at around 600 feet. The structure is described as a very large one and it is probable that testing will not be confined to one well. The operators have established a very substantial camp, set up two boilers, and have an 84-foot derrick and are using oil for fuel.

Willard Dome

The Northeastern Colorado Oil Co.'s No. 1 State, Section 36-8n-55, on the Willard Dome, in Logan County, is shut down at 5,562 feet in the Lakota sand and it is not yet certain whether it will be drilled deeper. There is 270 feet of open hole which is caving above the sand and it may be necessary to run another string of casing in order to drill any deeper. The future of the well depends upon additional financing, it appears.

In Larimer County, the Union Oil Co. of California's No. 2 Foster, NE SW, Section 30-10-68, Wellington Dome, is running tubing at 4,492 feet, 2 feet in the Muddy sand, and will be put on the pump. The well made several flows while being agitated. It was then cored a few feet below the bottom and reported to have shown a little water, so it will be produced from the top part of the sand for the present. Same company's No. 1 Blunck, NW NW, Section 30-8n-68, Fort Collins Dome, an old well which started deepening to lower horizons recently, is held up at 4,800 feet with the tools in the hole, and it is doubtful if it can be made into a deep test. Instead, No. 1 Messerschmidt, NW NE, Section 30-8-68, which was completed in the Muddy sand at 4,580 feet in 1925 with an initial production of 300 bbls., is to be made a test to the lower sands. It is now drilling at 4,784 feet and carrying the 4½-inch casing. No. 1 Dement, NE NE, Section 7-9-68, which was completed last March at 4,540-55 feet as a 100-bbl. well in the Muddy sand, will be made into a deep test on the Wellington Dome. The Messerschmidt well on the Fort Collins Dome cut 70 feet of Muddy sand and the Lakota sand is expected at 4,885 feet. No. 1 Gault-Piatt-Puleston, NE NW, Section 7-9-68, Wellington Dome, is drilling at 1,800 feet, and No. 1 K. W. & B., SW NE, Section 19-8n-68, is rigging up. No. 7 Buckeye, SE Section 31-10-68, is drilling at 780 feet. No. 6 Buckeye, NW NE, Section 31-10-68, which was being completed in the Muddy sand topped at 4,385 feet, when tools were lost, is pulling 6¼-inch casing with tools inside.

The Parker Club's No. 1 Adams, Section 32-34-56, near Branson, in Las Animas County, has been held up at 3,850 feet for some time by the hole going crooked. It was shot and after cleaning out has resumed drilling and is now at 3,900 feet. Phillips Petroleum Co.'s No. 1 Haskins, Section 23-29s-56, Red Rocks structure, joint with the Reiter-Foster Oil Co., is drilling at 920 feet.

Progress on the Amarillo-Denver gas line is reported, the favorable weather working to the benefit of the contractors. Ninety miles of the line has been laid and covered, or about 25 per cent. Approximately 1,000 men are now employed and crews have started working out of Denver.

Utah

The Uinta Basin in northeastern Utah is coming in for considerable attention from the wildcatters. This interest was stimulated this week by the striking of gas in the Midwest Exploration Co.'s No. 3 Ashley Creek, Section 23-5-22, in Uinta County, just west of the Moffat County, Colorado, line. The test topped a sand in the Morrison at 1,663 feet and is drilling at 1,687 feet. It was making 20,000,000 feet of gas when mudded off to continue drilling. The test is headed for the Sundance sand which has been found productive on the Colorado side, and that horizon should be reached within the next 300 feet. Conditions are very similar to those found on the Iles Dome where oil has been encountered in the Sundance below the gas in the Morrison. The well is being drilled for the Utah Oil Refining Co. which opened a large gas well on the same section two years ago, but which did not test the Sundance, having run out of hole. At that time the Sundance had not been proven in northwestern Colorado. Farther to the west in Duchesne County, the Midwest Exploration Co.'s No. 1 Early, Section 13-4-6, is bottomed at 2,976 feet and is underreaming to lower casing. The objectives in these two wells are not the same. The Early well is a test of the Tertiary formation.

F. J. S. Sur, geologist and president of the Western Venture Corp., which is drilling a test in the same general area, recently gave a talk before an engineering body at Vernal in which he discussed the geology of the region. He said that the Eocene (Wasatch formation) that occurs on the western flank of the Rocky Mountains is an entirely different type of Eocene than that on the eastern flank. Fossils found in this formation on the western flank in the areas west of Vernal and west of Dragon, both in Uinta County, and the latter on the border between Colorado and Utah, are described by him as showing that this formation was deposited under semimarine and marine conditions. He stated that the occurrence of Eocene formations completely saturated with the residue of asphaltic base oil on the western flank shows that oil does exist in tremendous quantities. Exposures of these sands saturated with the inspissated residue of asphaltic base oil exists in many places along the rim where the Eocene formations are uplifted and exposed around the Uinta Basin. The thickness of the saturated sands vary from 100 to 1,200 feet, he said.

Geology of Uinta Basin

Mr. Sur pointed out that it is in this formation, in sands of the same type, and on similar structures, namely monoclinal, that oil has been found in some of the greatest fields in California, the oil being found in the Tertiary and having an asphaltic base. The Midway-Sunset region and the Coalinga fields, he said, were the first to prove that oil in large quantities could be found on monoclines back of exposed outcrops of sand which showed inspissated asphaltic base oil. The first wells in those fields were drilled so close to the outcrop that the first oil found was almost too heavy to take out of the hole, but that the next wells drilled were farther back from the outcrop and proved larger producers. He declared that the Uinta Basin seems to be the only region west of the Rockies and east of California where the marine and semimarine Tertiary formations lie over a large area in an attitude where oil can accumulate in large quantities.

Two tests are being made in this formation at present. One of these is the No. 1 Early of the Midwest Exploration Co., and the other is the Western Venture Corp.'s No. 1, NW SE, Section 6-5s-21e, 6 miles southwest of Vernal, drilling in fine conglomerate at 300 feet. This is on what is known as the Vernal monocline which has a tilt of 7½ to 9 degrees westward where saturated oil sands exposed on the outcrop exist at a depth less than 1,000 feet. Another test in that area is the Maud Ellen Oil Co.'s No. 1, SE Section 28-3s-21e, 7 miles north of Vernal on the Neal structure, setting the 8¼-inch casing at 600 feet. This is a Pennsylvanian test.

Utan Southern Oil Co.'s No. 1 J. L. Shafer, Section 36-26-20, Cane Creek Dome, in Grand County, is drilling at 150 feet in gray lime. This is a joint operation with the Moab Consolidated Oil Co.-Utah Southern's No. 1 Canyon, Section 18-41-19, East anticline, is drilling at 1,625 feet. Embar Oil Co.'s No. 1 Big Six, Section 34-25-21, Moab anticline, is drilling at 5,200 feet in alternate layers of black and gray shale. The Texas Production Co.'s No. 1 Shipley, Section 5-27-14, Wayne County, is filling to redrill. Total depth, 2,850 feet. The Boulder Knoll Oil & Gas Co.'s test on Section 17-43-25, near Monticello, is drilling in the red beds at 2,275 feet (corrected depth).

The Continental Oil Co.'s test on Section 23-43-22, Boundary Butte Dome, in San Juan County, is drilling at 2,905 feet. A slight change in the formation has taken place and the well is now reaching an interesting stage. It is a test of the Pennsylvanian.

An explosion occurred the past week at the Crystal Carbon Co.'s carbon black plant at Cisco, in Grand County, Utah, partially wrecked one of the burning houses and seriously burned M. H. Lary, one of the workmen. S. J. Bennett, superintendent of the plant, also was burned on the head slightly.

New Mexico

The Arena Oil Co.'s No. 1 Wilkins, NE cor. NW, Section 18-13-31, in Chaves County, a rank wildcat, attracted considerable attention the past week when it showed some gas at three horizons. The test is approximately 18 miles north of the Texas Production Co.'s Robinson wells in Eddy County, and the same distance southeast of the Buffalo-Roswell well in Chaves County, which is shut down at 4,300 feet. The test topped the salt at 975 feet and bottomed it at 2,010 feet. The first break in the formation occurred at 2,461 feet when it had a show of gas in lime. Additional gas was picked up at 2,490 feet. After drilling to 2,500 feet the well commenced caving and it was decided to run the 8¼-inch. At last reports it was bottomed at 2,504 feet and 2,502 feet of pipe was in the hole. Since then a telegraphic report that has not yet been verified was to the effect that at 2,575 feet a flow of gas estimated at 1,000,000 feet a day was encountered. This was a logical expectation as additional developments were expected at about that depth.

An interesting incident connected with the location of this well is current. The late maps show the original location about 2 miles southwest of the present well to have been abandoned. The story is to the effect that a 5-mile road to the site had been scraped out of the sand and the night before the moving in of material was to begin a windstorm came and filled the newly-scraped road with sand. The workmen attempted to deliver the material, but could not get within 2 miles of the location. The material was dumped on the roadside until the road could be opened up. In the meantime a proposal to swap permits was made and accepted and the rig was put up where the material had been dumped out. It will be recalled that something similar led to the discovery of the Big Lake Field in Texas. The only other Chaves County operation that is active is the Barrendo Oil & Gas Co.'s No. 1 Roswell Farms Co., SW cor., Section 5-10-27, 18 miles northeast of Roswell, which commenced spudding on January 26, and is drilling at 100 feet in gravel.

Southeast of Artesia

In Eddy County, the Getty Oil, Inc.'s No. 1 Nicholas, NW NW, Section 25-20-29, in the Twin Hills district, 10 miles southeast of the Artesia Pool, is bottomed at 1,382 feet and is running tubing to test. It cut a brown sandy lime at 1,350-70 feet which was shot with 40 quarts and the well swabbed 25 bbls. initial. While it looked as if it might make a small commercial well at that horizon, it was decided to drill deeper and at 1,378-82 feet it picked up another pay. A swabbing test showed a production of 100 bbls. in 24 hours. The well is located a little more than a mile to the south and east of the same company's No. 1 Hinkle which was completed at 1,368 feet and flowed 69 bbls. the first 24 hours. It is probable that a pipe line will

(Continued on Page 78)

ROYALITE NO. 10 MAKES LIGHT CRUDE; HUDSON BAY-MARLAND IN GAS FIELD

By Victor Lauriston
Staff Correspondent, Canadian Fields

CHATHAM, Ontario, Feb. 11.—In the Turner Valley Field southwest of Calgary, Royalite Oil Co. No. 10, NE Section 12-20-3w5, offsetting the New McDougall-Segur's No. 2 producer has got what looks like a fair commercial production in the top horizon of the Blairmore-Dakota formation at about 2,260 feet. Early tests indicated a daily production of 30 bbls. of light crude, with indications that this production would be increased when the well is cleaned out and drilled deeper into the sand. If the production holds up, the well will probably be finished around this depth. Royalite's No. 10 is about 450 feet from New McDougall-Segur's No. 2, which last year got production in the Blairmore-Dakota horizon.

In east-central Alberta, further details of the drilling plans of the Hudson's Bay-Marland Oil Co. in the Viking Field have been announced. The drilling is being undertaken in conjunction with the Northwestern Utilities, Ltd., of Edmonton with a view to ensuring the city of Edmonton a substantially increased natural gas supply in order to make natural gas available for industrial purposes on a large scale. Under the tentative agreement between the two companies, drilling of the first deep test well will be started early in the spring, to be followed by a systematic drilling program until the entire field is fully developed. The field will be developed solely as a gas field, there being a slight chance of oil production but no serious expectation that oil in commercial quantities will be found. Further announcement regarding the progress of the negotiations between the two companies was made by Glenn M. Ruby, vice president and general manager of the Hudson's Bay-Marland Oil Co., on his return recently from the East. Mr. Ruby was accompanied to Edmonton by Doctor Van der Gracht, vice president of the Marland Refining Co. and president of the Hudson's Bay-Marland Oil Co., who is chief geologist for the Marland organization.

Deepest in Viking Field

The well to be drilled by the Hudson's Bay-Marland Oil Co. in the Viking Field will be a deep test, carried probably to the 3,500-foot level. The present gas production from Viking sand is secured around 2,100 feet. While oil may be encountered, Mr. Ruby states he is not expecting more than mere showings of heavy black oil, and does not feel hopeful of oil in quantity; this expectation being based on the experience of practically every structure in the Rocky Mountain and Western Plains region. Pointing out that the Viking gas is of the dryest variety, Mr. Ruby said:

"It is accepted as a fact by the oil companies and geologists in the western United States that if any upper sands yield dry gas, no oil will be found in deeper sands. The black, tarry oil which was encountered in one of the gas company's wells shows no gasoline content, and is further proof that geological conditions are not favorable to the formation of merchantable oil.

"The object of drilling the hole at Viking is to carry out our contract with the Hudson's Bay company. Under that contract our company is the owner of all oil and gas rights on all Hudson's Bay company lands, and we are called on to protect this land from underground drainage of oil and gas. Northwestern Utilities, owners of the Viking gas field, have been taking gas from under the Hudson's Bay company and other unleased lands for several years without any compensation to the land owners. This gas has been taken through their wells which have been drilled adjacent to these unleased lands, and the only recourse these landowners have is to drill on their own land and market the gas, which market is controlled by the franchise of the gas company. By reason of the Hudson's Bay-Marland Oil

(Continued on Page 105)

Long Beach Peak Expected During May

Should Be Somewhere in Neighborhood of 170,000 Bbls. May Produce Over 50,000,000 Bbls. in 1928

By L. P. Stockman
Staff Correspondent, California Fields

LOS ANGELES, Calif., Feb. 11.—Deep sand exploitation at Long Beach has not yet begun to manifest itself in increased completions, and, while the number of new wells should commence getting larger from now on, the big parade will not get well under way for another several weeks. The 1928 peak at Long Beach will probably be reached some time during May, although the large number of new wells started since the first of the current year may postpone the high point for several weeks longer. The high to be attained by Long Beach as a result of present deep sand exploitation is still problematical, although the writer's original estimate of from 150,000 to 175,000 bbls. per day looks good, notwithstanding it was made several months ago. The large number of new wells spudded in during the past 60 days should exert a very appreciable affect on the production of this field during the next six months and this increased drilling may result in the attainment of a high somewhere in the neighborhood of 170,000 bbls. Several additional locations were staked for new projected deep sand wells at Long Beach during the week and this continuous work should prevent any appreciable decline in production for several months after the 1928 high has been reached. As a matter of fact, it need not be at all surprising if Long Beach produced in excess of 50,000,000 bbls. of crude during 1928.

The Pan American brought in No 1 McKeon several days ago after redrilling and deepening from the upper to the lower zone at 6,084 feet, from which depth it registered an initial daily production of 915 bbls., the oil testing 30.1 degrees. The Shell did not complete any new deep sand projects at Long Beach during the week but its operations were nevertheless very conspicuous, due to increased drilling. This company started construction work on eight new derricks, No. 4 Binkley, No. 1 Brown, No. 2 Foster, No. 3 Horsch, No. 7 Patton-Wilson, No. 3 Wells and Nos. 7 and 8 on the Jones property, should be making hole within 10 days. The Richfield Oil Co. also increased the scope of its operations by building new rigs for No. 7 Denni and No. 3 Malcolm-Davis. The Bolsa Chica Oil Corp. has just concluded drilling operations on No. 4 Mutual and it will be finished in the deep zone within 10 days. This well is a short distance southwest of the McKeon Drilling Co 's No. 3 Evans which recently came in flowing 2,375 bbls. of 30.1 gravity oil and 1,500,000 feet of gas daily.

Seal Beach

The Richfield Oil Co.'s No. 1 Bonner, the initial producer in the newly discovered deep zone at Seal Beach, is still holding up in good shape and, while this completion has not precipitated any general deepening campaign, additional work may be anticipated. Approximately 60 wells can be deepened in the Alamitos Heights town lot area and it is quite probable a large number will be carried to the lower horizon as soon as someone starts the ball rolling. The relatively small production secured by the Richifeld in No. 1 Bonner, approximately 500 bbls. per day at present, has tended to retard deepening operations as some of the wells with holes sufficiently large to permit a resumption of work are still doing better than 300 bbls. per day. In other words, operators figure that the additional 200 bbls., which might be secured by drilling into the recently discovered lower zone is hardly justified under present conditions, as it would require about $20,000 to add the additional hole required. Subsequent drilling may change the present outlook, as the Richfield is producing from only 170 feet of the 500-foot sand present on the apex of the structure. The potentiality of this new zone is still conjectural due to the unsatisfactory production tests made by the Marland in Nos. 11 and 16 in the northern part of the Selover lease offsetting the town lot area, as both of these wells, which were finished at approximately 6,600 feet, are producing an excessive amount of water, the origin of which is still undetermined. It is probable this 6,600-foot horizon in the Alamitos Heights town lot area will be given a definite test within 30 days, as George F. Getty has recently started deepening his No. 12 Alamitos. The Associated's No. 17-A Hellman in the extreme eastern part of the Seal Beach Field, which has been on a production test for two weeks, has finally cleaned up and it is being listed as a 150-bbl. pumper from 5,413 feet, the output testing 27.1 degrees.

Santa Fe Springs

Recent developments in the Santa Fe Springs Field indicate the possibility of a revival of interest in this 7-year-old field as a result of a move under way to drill a deep conclusive test near the apex of the structure. Correlation work indicates the possible existence of another productive horizon below the Meyer zone. Three separate and distinct zones are present in the Santa Fe Springs Field, the upper, or first, being designated as the Foix. This horizon was rather limited in both area and productivity. The second, or intermediate horizon, is known as the Bell zone and while it was larger in area and more productive than the Foix, it has not proved as important a factor as the Meyer zone. The top of the Meyer is somewhere around 4,600 feet and if there is still another horizon below this it should occur somewhere around 5,100 feet.

New Well in Torrance

The Chanslor-Canfield Midway Oil Co. completed No. 91 Torrance, a new well in the Torrance Field, early in the current week, and this new well, which was carried down to 3,653 feet and finished with a 6¼-inch oil string, is pumping 100 bbls. of 17.6 gravity oil daily. The Barnsdall and Union should each finish a new deep sand well in the Rosecrans Field within a month and both should secure substantial production. The former's No. 9 O'Dea is standing cemented at 5,842 feet while the latter's No. 11 Howard Park is rotating ahead at 5,715 feet. Drilling operations in the Dominguez Field have been reduced to an absolute minimum during the past two years and, while neither the Union nor Shell contemplates an early resumption of work, lease requirements will probably result in the drilling of several new projects during the year. The Union's latest spud in this area was No. 22 Callender, now down 1,250 feet. Drilling wells in the Richfield district which yielded 72 new producers during 1927 can almost be counted on the fingers of one hand and this area will probably become dormant for several months. The Union and Shell are both running several strings of tools in the Fullerton, or Brea Olinda, Field but both will undoubtedly limit further work in view of the anticipated gain in production at Long Beach. The Shell has just finished No. 16 Orange at Fullerton, the first full 24-hour gauge showing an initial daily production of 4,300 bbls. of oil and 3,000,000 feet of exceptionally wet gas from 4,623 feet.

Rincon

The water problem at Rincon has become the subject of considerable study and the operators holding acreage in that area attended a general conference early last week to decide upon a uniform shut-off point. The Mining Bureau has made certain recommendations and while there is no unanimity of opinion, a definite agreement will undoubtedly be reached. This may result in decreased work unless another deep zone is opened up as the State sand, now being developed, will not

(Continued on Page 76)

IMPORTANT SOUTHERN CALIFORNIA WILDCATS

Company, Well and Location—	S-T-R	Depth	Status
Associated, No. 1 Cypress, Potrero	34- 2-14	5,408	recemented
Associated, No. 2 Cypress	34- 2-14	Rig	Rigging up
Smith & Carpenter, No. 1 Smith, Potrero	35- 2-14	5,420	testing
Pet. Securities, No. 1 Connolly, Potrero	27- 2-14	3,750	sd. sd. drilling
Hurst Oil Corp., No. 1 Inglewood, Los Angeles Co.	28- 2-14	3,772	suspended
Mont. Park Oil Co., No. 1 Browning, Mont. Park	26- 1-12	3,940	suspended
Associated, No. 1 Patterson, Pico	13- 2-12	5,000	hd. sd. drilling
Circle Oil Co., No. 1 Pomeroy, Manchester	23- 3-14	4,280	suspended
Shell, No. 1 Mission, San Fernando	4- 2-15	4,960	fishing
Carr, O. K., No. 2 Foster, San Juan Capistrano	13- 8- 8	4,230	suspended
Andrews, Otis, No. 1 Lancaster, Los Angeles Co.	23- 8-13	1,100	sd. drilling
Southwest Pet. Co., No. 1 Ramsauer, Watts	4- 3-13	4,302	suspended
Security Pet. Co., No. 1 Lynwood, Los Angeles Co.	13- 3-13	3,490	hd. sd. drilling
Dominguez Ext., No. 1 Compton, Los Angeles Co.	27- 3-13	5,510	pipe trouble
San Clemente Oil Co., No. 1 Peck, Hawthorne	20- 3-14	5,760	will test
O'Donnell, E. E., No. 1 Dupree, Hawthorne	29- 3-14	5,304	suspended
Scott & Currier, No. 1 Hawthorne, L. A. County	33- 3-14	Rig	rigging up
White Behr, No. 1 Watson, L. A. County	21- 4-14	4,790	hd. sd. drilling
Buttrum, F. W., No. 1 Richfield, Orange Co.	36- 3- 9	2,600	sd. sh. drilling
Son. C. A., No. 1 Pinkerton, Orange Co.	5- 5-11	3,620	may abandon
Ohio Oil Co., No. 1 Anaheim, Orange Co.	8- 4-11	.....	location
Olympic Refg. Co., No. 1 Sunset Beach, Orange Co.	19- 5-11	3,510	pr. sd. drilling
Getty, Geo. F., No. 1 Seal Beach, Orange Co.	14- 5-12	992	temp. suspend.
Shell, No. 1 Stern, Orange Co.	22- 3-10	3,650	hd. sd. drilling
Hemet Pet. Co., No. 1 Ward, Riverside Co.	9- 5- 1	2,115	hd. sd. drilling
Mesa Pet., No. 1 Newport, Orange Co.	21- 6-10	1,860	hd. sd. drilling
Davenport O. & G., No. 1 San Marcos, San Diego Co.	30-12- 2	355	hd. sd. drilling
Turner, S. S., No. 1 Escondido, San Diego Co.	25-12- 2	320	sd. drilling
Mills, J. P., No. 1 Pueblo, San Diego Co.	18-15- 3	1,590	sd. drilling

IMPORTANT NORTHERN CALIFORNIA WILDCATS

General Pet. Co., No. 2 Ochsner, Ke tleman Hills	28-22-18	6,350	hd. sd. drilling
South Coalinga, Well No. 1, Kettleman Hills	35-24-19	2,992	reaming
Monocline Dev. Co., Well No. 1, Kettleman Hills	7-21-21	4,308	suspended
McPhail, Hugh, Well No. 1, Kettleman Hills	13-24-18	2,095	cleaning out
Milham Explts., No. 1 Kettleman, Kings Co.	2-22-17	6,845	br. sh. drilling
Shell, No. 2 Berlywood, Moorpark	32- 3-20	6,420	pipe trouble
Star Petroleum, No. 2 Canet, Ventura Co.	13- 3-23	5,150	hd. sd. drilling
Standard, No. 3 Saticoy, Ventura Co.	9- 3-22	1,150	sd. drilling
Exline, Emma, No. 1 Sa.icoy, Ventura Co.	33- 3-21	Rig	rigging up
Petroleum Sec., No. 1 Diablo, Ventura Co.	26- 5-18	4,195	hd. sd. drilling
Parkford, E. A., No. 1 Strathern, Ventura Co.	5- 2-18	4,002	suspended
Shell, No. 1 Strathern, Ventura Co.	6- 2-18	2,750	hd. sd. drilling
Shell, No. 1 Oxnard, Ventura Co.	35- 2-22	1,023	sd. drilling
Miley Oil Co., No. 1 Red Mountain, Ventura Co.	7- 3-23	980	suspended
Keck Inv. Co., No. 1 Fillmore, Ventura Co.	35- 4-20	3,364	hd. sd. drilling
McAdams, J. E., No. 1 Buttonwillow, Kern Co.	26-29-23	4,540	br. sh. drilling
Milham Explts., No. 2 Buttonwillow, Kern Co.	8-28-23	4,662	gas well
Milham Explts., No. 2 Kern, Kern Co.	8-28-23	2,730	gas well
Dehy-Tone, No. 3 Buttonwillow, Kern Co.	7-29-24	4,150	will deepen
Sou. Calif. Gas Co., No. 1 Buttonwillow, Kern Co.	4-28-23	1,511	sd. drilling
Semitropic Oil Co., No. 1 Semitropic, Kern Co.	21-26-22	1,014	hd. sd. drilling
Pacific Eastern, No. 1 Fruitvale, Kern Co.	21-29-27	3,851	new field
Pacific Eastern, No. 1 Union Ave., Kern Co.	6-30-28	5,515	hd. sd. drilling
Pacific Eastern, No. 2 Union Ave., Kern Co.	6-30-28	2,510	sd. sh. drilling
O'Donnell, J. E., No. 1 Greenfield, Kern Co.	30-29-28	Mtl.	building rig
Superior Oil Co., No. 1 Edison, Kern Co.	24-29-29	110	sd. drilling
Stabler, W. W., No. 1 Comanche Point, Kern Co.	23-32-29	Rig	rigging up
Midway Northern, No. 1 Edison, Kern Co.	29-29-30	2,605	hd. sd. drilling
Shell, No. 1 Corral Canyon, Kern Co.	16-26-28	1,125	may abandon
Shell, No. 1 Mon Bluff, Kern Co.	3-28-28	4,056	hd. sd. drilling
North American, No. 1-A Delano, Kern Co.	5-25-26	3,275	sd. sh. drilling
Fresno Madera Oil Co., No. 1 Clovis, Fresno	18-12-21	4,005	hd. sd. drilling
Barneyberg Oil Co., No. 1 Brown, San Luis Obispo	26-32-14	2,296	hd. sd. drilling
Richfield, No. 1 Wreden, San Luis Obispo Co.	10-29-17	2,961	may abandon
Miley Oil Co., No. 1 Carissa, San Luis Obispo Co.	15-29-17	2,540	suspended
Union Oil Co., No. 1 Huasna, San Luis Obispo Co.	34-32-15	1,363	sd. drilling
San Luis Syndicate, Well No. 1, San Luis Obispo Co	29-31-15	2,219	will test
Sequois Oil Co., Well No. 1, San Mateo Co.	13- 7- 5	1,250	hd. sd. drilling
Shell, No. 1 Butts, San Mateo Co.	16- 6- 5	4,750	hd. sd. drilling
Shell, No. 1 Butts, San Ma eo Co.	16- 6- 5	1,300	sd. drilling
Shell, No. 1 Mossi, Petaluma	8- 5- 6	1,103	hd. sd. drilling
Thomas & Hammill, Well No. 1 Alameda Co.	16- 3- 3	1,070	water trouble
Tepesquit Oil Co., Well No. 1 Santa Barbara Co.	3- 9-32	1,680	sd. drilling
Becker, Geo. F., No. 1 Summerland, Santa Barbara	33- 4-25	3,029	recemented
Twin State Oil Co., No. 1 Modoc, Santa Barbara Co	12- 4-27	2,400	sd. sh. drilling
Birch Oil Co., No. 1 Porterville, Tuare Co.	13-20-26	3,460	to abandon
Fort Wayne Synd., No. 1 Goodcell, Madera Co.	22-10-17	2,250	fishing
Continental Oil Co., No. 2 Smith, Colusa Co.	31-18- 4	4,300	hd. sd. drilling
Colusa Oil Co., Well No. 1, Colusa Co.	31-15- 4	200	sd. drilling
Marland Oil Co., No. 1 Bradley, Monterey Co.	32-24-11	Rig	rigging up
Shell, No. 1 Bradley, Monterey Co.	32-24-12	.....	location

TANKER SHIPMENTS FROM LOS ANGELES TO ATLANTIC AND GULF COAST PORTS

Commodity—	Total This Week	Daily Average	Total Last Week	Daily Average	This Year to Date	Same Time Last Year
Crude oil	171,798	24,543	171,798	24,543	928,704	839,021
Fuel oil	.....	.....	.....	.....	.....	1,271,124
Diesel and gas oil	93,476	13,354	93,476	13,364	259,132	411,575
Gasoline	413,109	59,016	413,109	59,014	1,429,180	1,375,036
Coastwise—						
Crude oil	336,992	48,142	336,992	48,142	1,620,411	3,892,688
Fuel oil	346,950	49,564	346,950	49,564	1,923,187	1,838,261
Diesel and gas oil	424	61	.....	.....	170,723	19,574
Gasoline	256,452	36,636	219,023	31,289	1,251,186	1,205,594
Kerosene	1,539	220	.....	.....	13,050	31,666
Tops	.....	.....	.....	.....	30,500	.....
Exports—						
Crude oil	72,102	10,300	72,102	10,300	252,882	394,752
Fuel oil	388,141	55,449	388,141	55,449	2,801,543	3,656,132
Diesel and gas oil	70,932	10,133	70,932	10,133	304,637	83,906
Gasoline	128,943	18,420	63,818	9,117	651,195	380,125
Kerosene	112,016	16,002	112,016	16,002	449,401	281,669

TANKER SHIPMENTS FROM SAN FRANCISCO TO ATLANTIC, GULF COAST PORTS

Diesel and gas oil	.....	.....	74,180	10,597	167,695	96,087
Gasoline	.....	.....	.....	.....	154,238	172,907
Lubricants	.....	.....	69,854	9,979	69,854	58,110
Coastwise—						
Fuel oil	.....	.....	73,122	10,017	431,102	755,811
Diesel and gas oil	.....	.....	.....	.....	1,478	134,308
Gasoline	143,193	20,456	1,780	1,683	326,158	528,422
Kerosene	4,871	696	.....	.....	24,733	7,353
Exports—						
Fuel oil	.....	.....	.....	.....	333,325	222,042
Gasoline	12,752	1,822	227,835	32,548	582,447	463,920
Kerosene	.....	.....	.....	.....	80,391	135,751
Lubricants	.....	.....	.....	.....	.....	9,120

Nuttall *re* Timken Bearings

A pioneer, large-scale producer of gear units, and an authority in its field, the R. D. Nuttall Company of Pittsburgh make the following statement regarding Timken Bearings for mounting their single helical gears:

"The helix angle develops a side thrust that must be taken on the bearings. We have found the Timken tapered roller bearing, being a combination radial and thrust bearing, successfully carries both loads and maintains true alignment of the gears. We have therefore standardized on the Timken bearing for most of our gear units and speed reducers.

"(Signed) B. H. SLOCUM,
"Assistant Chief Engineer."

The Timken combination of extreme thrust-radial capacity with most effective anti-friction properties comes from Timken tapered construction, Timken *POSITIVELY ALIGNED ROLLS*, and supremely durable Timken electric steel. This is the character of design and construction which fits Timken Bearings to be entrusted with such a reputation as Nuttall gears enjoy.

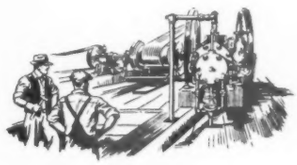
THE TIMKEN ROLLER BEARING CO., CANTON, OHIO

TIMKEN
Tapered
ROLLER BEARINGS

FRANKLIN VALVELES

ONE TRUCK TRANSPORTATION

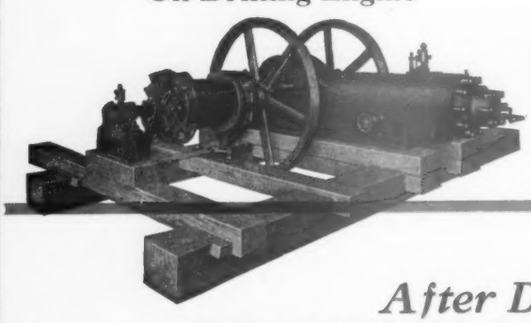
EASILY INSTALLED



VISIBLE LUBRICATION

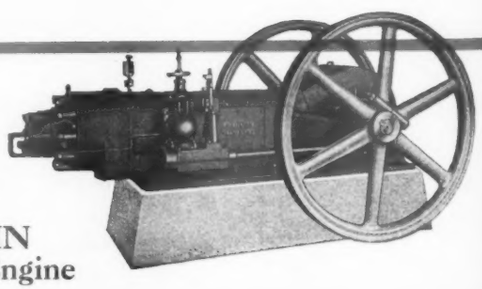
LOW FUEL COST

FRANKLIN
Oil Drilling Engine



INTERCHANGEABLE

After Drilling Move in a FRANKLIN Pumping Engine



FRANKLIN
Oil Pumping Engine

Dist

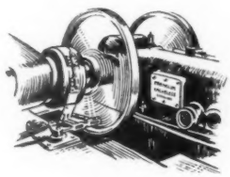
OIL WELL SU

Branches

OIL AND GAS ENGINES

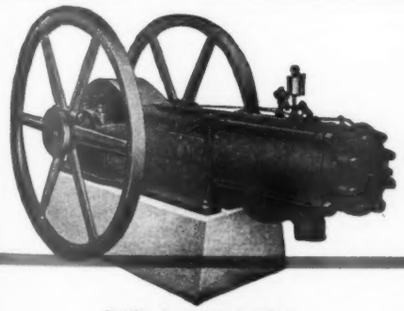
REQUIRES LESS WATER

SIMPLE CONSTRUCTION FEW PARTS

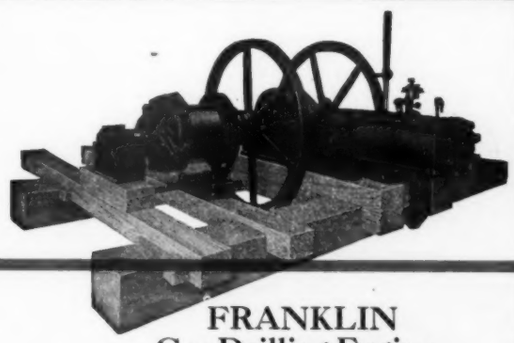


STARTS EASILY

NO VALVES TO GRIND



An Efficient Gas Engine Also



FRANKLIN
Gas Pumping Engine

FRANKLIN
Gas Drilling Engine

FRANKLIN VALVELESS ENGINE COMPANY
Franklin, Penna.

Fewer Completions in Eastern Fields

Only Producers in Defined Territory. Roane County, West Virginia, Gets Fair Producer. Light Gassers the Rule

By D. S. Wakenight
Staff Correspondent, Eastern Fields

PITTSBURGH, Pa., Feb. 13.—There was nothing large completed in any section of the Eastern fields. There were fewer wells and all located in defined territory.

In the NE of Section 19, Reading Township, Perry County, the Planet Oil Co. and others drilled No. 7 on the S. B. Dittoe farm through the Clinton sand and it is a very light pumper. In Section 14, Licking Township, Licking County, O. W. Zinn and others have completed in the Berea grit a second test on the Charles Schol farm and it is a duster. When drilled through the Cinnamon sand a light show of oil was developed at a depth of 1,400 feet. It has been abandoned.

In the NE of Section 30, Salisbury Township, Meigs County, Wheeler & Griffith are drilling a test on the J. B. Wells farm.

The Hope Construction & Refining Co. completed a test on the Charles E. Smith farm, in Section 24, Perry Township, Licking County, Ohio. It produced 45 bbls. the first 24 hours after shot in the Clinton sand. Perry County is still maintaining its lead in the number of wells completed and in the amount of new production.

Lorain County

In the SE of Lot 15, Columbia Township, Lorain County, the Empire Gas & Fuel Co. has completed a test on the G. W. and M. D. Brooks farm. It is a gasser in the Clinton sand good for 400,000 feet. In the SE of Section 16, same township, the Ohio Fuel Supply Co. has completed in the same formation a test on the C. L. Burk farm. It is a gasser good for 500,000 feet.

In the SE of Lot 6, Middleburn Township, Cuyahoga County, John Arthurs has completed in the Clinton sand a test on the Mary Gould farm. It is a duster. In Lot 10, Chatham Township, Medina County, Johnson & McGrath have completed a test on the Leah H. and Silvia E. Brinker farm. It is dry in the Berea grit at a total depth of 255 feet.

In the SE of Section 20, Harrison Township, William Cline and others have drilled No. 3 on the Timmons Coal Co.'s property 41 feet into the Clinton sand. It is a gasser good for 1,500,000 feet and showing a little oil. The total depth of the well is 3,590 feet and it will not be drilled deeper at this time.

Guernsey County

In Section 10, Westland Township, the Cambridge Oil Co. has a 10-bbl. pumper in the Niagara lime at a test on the A. A. Kerr farm. In Section 20, the Pure Oil Co. has a 30-bbl. producer in the same formation at No. 3 on the D. D. Ridgeley farm. In the same section Davis Brothers Co. has the rig completed for a test on the John M. Ruby farm.

In Section 10, Monroe Township, Holmes County, the Empire Gas & Fuel Co. has the rig completed for a second test on the M. G. Bird farm. In Section 16, Hardy Township, Palmer & Co. have a rig up on the George Schuler farm. The East Ohio Gas Co. has the rig completed on the A. E. Harford farm.

In the SE of Section 2, Cross Creek Township, Jefferson County, Featner & Co. have completed in the Berea grit a test on his own farm. It is a natural producer and produced 20 bbls. the first 24 hours.

In the SW of Section 22, Salt Lick Township, Perry County, the Orndorf estate has completed in the Clinton sand a test on the Mid West Brick & Clay Production Co.'s farm and it is a duster. Nothing was found in the Clinton sand but a very little gas. It will probably be abandoned.

Washington and Hocking Counties

On the head waters of Sheets Run, Grandview Township, Washington County, Thomas McVey and others have completed in the Big Injun sand a second test on the D. W. Burnett farm. It has been shot and is good for not more than 2 bbls. a day. In the NW of Section 15, Ward Township, Hocking County, the Chartiers Oil Co. completed in the Clinton sand No. 207 on the Hocking Valley Products Co.'s property. A very little broken sand was found at this location and contained a small amount of gas. It will be abandoned.

West Virginia

The West Virginia fields reported but two completions, one a light pumper and the other a fair gas well.

The Sycamore Fuel Co. has completed in the Big Injun sand its test on the B. M. Triplett farm, located in Sherman district, Calhoun County, 1,100 feet northeast of the same company's test on the L. J. Morris farm. It is good for 10 bbls. a day.

Mingo County

In Harvey district, Mingo County, the Public Gas Corp.'s No. 19 on the Closterman estate is a fair gasser, estimated good for 1,750,000 feet in the Maxon sand. It will not be drilled deeper at present. The oil pay is reached at 30 feet below the gas. This location is 1,500 feet west of production. The same company is drilling No. 20 on the same property and No. 29 on the Logan Cannel Coal Co.'s tract.

Late Completions

In Lost Creek district, Lewis County, the Philadelphia Co. has drilled its test on the Porter Maxwell farm through the Benson sand to a total depth of 4,639 feet. It is a gasser in the lower formation. In McClellen district, Doddridge County, the Elkhorn Oil & Gas Co.'s test on the Edward Tate farm is a gasser in the Big Injun sand.

In Barboursville district, Cabell County, John Davidson has completed a test on the Lewis and M. Wilson farm. It is a gasser in the Gordon sand.

In Union district, Tyler County, Sutton Brothers have completed a test on the D. C. Smith farm. It is a gasser in the Big Injun sand. In Church district, Wetzel County, the Manufacturers Light & Heat Co.'s test on the Jackson Antill farm is a gasser in the Big Injun sand.

Monongalia County

In Battelle district, Monongalia County, the Manufacturers Light & Heat Co.'s No. 3 on the Albert Efaw farm is a gasser in the Fourth sand. In the same district, the Clovis Oil & Gas Co.'s second test on the Elijah Clovis farm is a light gasser in the Bayard sand.

In Paw Paw district, Marion County, the Owens Bottle Co. has a gasser in the Gantz sand at a test on the West Central Coal Co.'s property. The same company is drilling a test on the William Valentine farm.

In Sherman district, Calhoun County, W. H. Bickel has drilled his test on the John Wolverton farm through the Big Injun sand. It is dry in all formations.

Ritchie County

In Murphy district, Ritchie County, Beall & Bickerstaff have a Big Injun sand duster at a test on the W. N. Cox farm. In Clay district, same county, the Aetna Oil & Gas Co. has a gasser in the Maxon sand on the Lee Pratt farm.

In Grant district, Pleasants County, Pickens & Co.'s No. 6 on the William Bennett farm is dry in all sands and abandoned. In McElroy district, Tyler County, the South Penn Oil Co.'s test on the W. T. White farm is through all sands. It is dry and abandoned.

In Mannington district, Marion County, the Buffalo Oil Co. is hauling drilling material to a location on the F. M. Benners farm. In Lee district, Calhoun County, the Hope Natural Gas Co. is building a rig on the C. D. Stalnaker farm. In the same district, the Calhoun Oil & Gas Co. has started to drill on the A. J. Nitz farm. In Sheridan district Godfrey L. Cabot is rigging up on the B. J. Ferrell farm.

In Birch district, Braxton County, the Philadelphia Gas Co. has made a location on the S. B. Cook farm. In DeKalb district, Gilmer County, the Valley Gas Co. is rigging up on the Albert E. Barkley farm. In the same district, Blaine & Engle are rigging up on the Maria Davidson farm.

Located 1½ miles southwest of Tanner pumping station, DeKalb district, Gilmer County, Harley Satterfield and others have drilled a test on the F. W. Gainer farm through the Big Injun sand and dry. It may make a very light pumper from the second Cow Run sand.

On Walnut Fork of Clover Run, Smithfield district, Roane County, Godfrey L. Cabot has completed in the Big Injun sand a test on the Kauffman-Oppenheimer farm. It is gasser good for 500,000 feet.

Fair Producer in Roane County

On Sugar Camp Run, Reedy district, Roane County, the Heck Oil Co. has completed in the Berea grit No. 11 on the J. W. Conley farm good for 40 bbls. a day. The location is 700 feet south of the second test on the A. D. Tallman farm.

In Union district, Ritchie County, S. W. Young has completed No. 3 on the John Townsend farm. It is a gasser in the Big Injun sand.

In Hackers Creek district, Lewis County, the Mid-Penn Oil Co. has completed in the fifth sand a test on the Bennett estate. It is a duster. In the same district, the Carnegie Natural Gas Co. has completed in the Benson sand at a depth of 4,430 feet a test on the A. Taylor farm. It is a light gasser. The Allegheny Gas Co. has a small gasser in the same formation at No. 3 on the Albert Straley farm.

In Washington district, Jackson County, the Ravenwood Co. has completed in the Berea grit a wildcat on the L. D. Parson farm. It is a duster. On the headwaters of Alley Trace Fork of Bredem Creek, Mingo County, the Public Gas Corp. has started to drill No. 20 on the Henry Closterman estate.

Starting Tests

In DeKalb district, Gilmer County, the Valley Gas Co. has a rig up on the Albert E. Bailey farm. In Washington district, Jackson County, the Producers Oil & Gas Co. has the rig completed and rigging up on the S. Keen farm. In Union district, Tyler County, Knowlton & Co. have shut down at 800 feet on the T. P. Williamson farm. In Scott district, Boone County, the Cameron Oil & Gas Co. has made five locations on the George P. Anderson farm. In Grant district, Wetzel County, the Carnegie Natural Gas Co. has shut down for a new cable on the J. H. Ott farm.

In Grant district, Ritchie County, David French and others have a rig up on the David Payne farm. In Murphy district, L. C. Huff and others are hauling rig timbers to a location on the J. P. Strickler farm. In Union district, Wood County, Rothwell & Co. are rigging up at a second test on the John Freshwater farm. In Center district, Calhoun County, the Hope Natural Gas Co. has started to drill on the Allen Hardman farm. In Sherman district, G. L. Cabot has a rig up on the L. N. Booher farm.

In Mannington district, Marion County, the Clifton Oil Co. is rigging up to drill deeper No. 4 on the Keen farm. In Grant district, Ritchie County, the Southern Oil Co. is fishing at 2,000 feet on the Andrew Douglass farm. In Lee district, Calhoun County, the United Carbon Co. has made a location on the D. C. Craddock farm. In Sherman district, the same company is rigging up on the Charles Robinson farm.

Lincoln County

In Carroll district, Lincoln County, C. S. Wolfe has started to drill a test on the Grant Cremens farm. In Jefferson district, the Foote Oil & Gas Co. has started to drill on the Lon Stowers farm. In Grant district, Cabell County, the United Fuel Gas Co. has made a location on the Mary J. Davis farm.

In Church district, Wetzel County, the Freeland Oil & Gas Co. is rigging up on the T. L. Freeland farm. In Ravenwood district, Jackson County, N. E. Harreman & Co. are drilling on the K. Hutchinson farm. In McClellan district, Doddridge County, McIntyre Brothers have shut down at 1,850 feet on the James Baker farm. In Center district, Wetzel County, the Manufacturers Light & Heat Co. is drilling on the S. B. Long farm. In Geary district, Roane County, the United Fuel Gas Co. has made a location on the H. H. and I. G. Stump farms.

Southwest Pennsylvania

In Indiana Township, Allegheny County, D. R. Rogers and others have completed a test on the J. M. Eisisel farm. It was drilled through all sands and is a duster. On Wagon Road Run, Springhill Township, Greene County, the Keystone Oil & Gas Co. has drilled a test on the J. D. Dukate farm through the Bayard sand and it is a light gasser in the fifth sand showing a little oil.

In Ross Township, Allegheny County, John C. Nock has a very light pumper at No. 4 on the B. Wolf farm. In Marshall Township, Robinson & Co. have a duster at a test on the H. Myers farm. In Ross Township, the Ward Oil Co. has a rig up on the Kuhn farm. In Pine Township, Smith and others have the rig completed for a second test on the Bloom farm.

Near Warrendale, same county, Scott and others have a 10-bbl. pumper at a test on the Fry farm. In the Wexford district, Beeler & McEvoy are drilling a test on the Steigerwald farm. In Greene Township, Beaver County, P. R. Laughlin's test on the Homer Dawson heirs' farm is a duster.

In Perry Township, Greene County, the Philadelphia Gas Co. has drilled down from the Big Injun sand an old gas well on the Perry Ammons farm. It is dry and has been abandoned. In Greene Township, the same company has completed a test on the Frank Blaker farm. It is also dry and abandoned.

In Whitely Township, the Peoples Natural Gas Co. has completed in the Gordon sand a second test on the Taylor Fox farm. It is a fair gas well in the Gordon sand. In Greene Township, the J. B. Orndoff Co. has completed in the Gordon sand a test on Mary Brown farm. It is a gasser good for 2,000,000 feet.

The Manufacturers Light & Heat Co.'s test on the Thomas Grimes farm, Center Township, Greene County, is a gasser in the Gordon sand. In Gilmore Township, J. W. Moorhead & Co. have a rig up on the George W. Shough farm. In the same township, the Red Gate Oil & Gas Co. is due in the Big Injun sand on the Isaac Kinney farm.

Regardless of governmental or private regulation, our national supply of petroleum remains fixed and unchangeable. True conservation consists in the elimination of underground waste. Smackover, Tonkawa, Seminole and other Halliburton-cemented fields are significant of what can be done in this direction.

HALLIBURTON OIL WELL CEMENTING CO.
Duncan, Oklahoma

Glasgow Has Kentucky's Best Well

Lecta Pool Completion Estimated Good for 200 Bbls. Initial. Daviess County Gets Good Showing

By Whit
Staff Correspondent, Kentucky-Tennessee

GLASGOW, Ky., Feb. 13.—The Glasgow Field of Barren County came to the front with the best completion reported for the week in any area of Kentucky, being the Wood Oil Co.'s No. 4 on the J. W. Pace farm, in the Lecta Pool, which produced 12 bbls. per hour and is estimated at around 200 bbls. initially the first 24 hours. Across the Barren County line in the northeastern part of Allen County, and in the Gainesville district, S. W. Loman made a good find in No. 8 on the E. H. Woods farm, in the horseshoe bend of Barren River, the well producing 64 bbls. initially at the shallow depth of 265 feet. This lease is off the big ranch of Mr. Woods, which contains in all a total of 2,700 acres. The bulk of the Woods lease is owned by the Mid-Southern Oil Co., of New Orleans, La. Other good wells were also reported from Barren County, as well as some excellent ones from the Ambrose Pool and its extensions in Ohio County, where Nos. 1 and 2 on the J. T. Hoagland farm are credited with 150 bbls. initially each, and No. 3 on the Jane Daniels lease, in the Sunnydale Field, same county, at 100 bbls. Lee-Owsley Counties, in the eastern division of the State, report a 50-bbl. initial producer in No. 6 on the J. P. Fraley farm, in District 18.

Active leasing has been under way for quite a time in Union, Henderson, Breckenridge, Butler and Muhlenburg Counties as well as in advance of production in Ohio, Daviess and McLean Counties, the three active areas in that part of the State.

Week's Work

A summary of the week's work in the Kentucky fields show 22 completions, 19 producers with an initial production of 908 bbls., and 3 dry holes. Compared with the previous week there were 1 more completion, 3 more producers, 415 bbls. more new production, and 2 less dry holes. The wells were distributed by counties and districts as follows:

County—	Comp.	Oil Wells	Prod.	Dry
Barren	9	9	407	0
Ohio	8	6	380	2
Wayne	2	2	7	0
Allen	1	1	64	0
Lee-Owsley	1	1	50	0
Warren	1	0	0	1
Total	22	19	908	3
Last week	21	16	493	5
Difference	1	3	415	2

Brown Well Showing Good

Oil excitement is at fever heat in the southern part of Daviess County, following the showing of the well on the Jim Brown farm, 1½ miles northwest of Utica, drilled by Miller & Dameron, which when connected to a tank flowed the oil through a 2-inch line on a high hill under its own pressure. Mr. Dameron states that he drilled through 20 feet of rich oil sand and the oil rose quickly to the top of the casing and was threatening to inundate the surrounding land when the cap and connecting pipe line to the tank was hooked up. The owners did not drill any deeper when they got that many feet of good pay sand as they did not want to have the experience that befell Percy Jolly and others on the Stevens farm well, about 2 miles northeast of the Brown well, and believed to be in the same pool. The Stevens well got a break in the same sand and got a heavy dose of water, also oil. The Stevens well made an excellent showing when the pay was first encountered. There are indications of a pool similar to the Ambrose Pool, in Ohio County, surrounding the Brown well and lease prices went sky high.

Eastern Kentucky

The finding of a good producer by the Williamson-Caywood Oil Co., in No. 6 on the John P. Fraley farm, District 18, of Lee-Owsley Counties, brings the Lee County area once more in the limelight. The well is not so large but is reported good for 50 bbls., which is well worth going after and may bring about a renewal of activity in that county.

In District 5, of Wayne County, the J. C. Blair Oil Co.'s Nos. 1 and 2 on the J. F. Gregory farm, showed an initial production of 2 and 5 bbls. respectively.

Wolfe County is reported looking up again after a quietude of a few years, or since 1917. Torrent, the jumping off place for the Big Sinking Field, which was among the most important fields opened in Kentucky, will, according to advice, get a few tests, following a completion by August Girard and others on the Day heirs farm, in District 20, good for from 5 to 8 bbl. They are starting another approximately 300 feet west of the original well. Brenner and Adams, contractors, have secured a lease on the Cain Spencer farm, to the south of Torrent, on the J. J. Bush farm adjoining the Spencer farm; and the P. S. Adams and Isaac Wishman farms on top of the hill east of Torrent. This farm is now drilling a well on the Cain Spencer lease, and getting ready to start a test on the P. S. Adams farm. A. Burnett has secured a lease on the John Bush property in the village of Torrent, while J. B. McCandless and others secured a lease on the Townsend heirs property, just north of Torrent and expect to start a test at once. The Williamson-Caywood company is starting No. 7 on the John P. Fraley farm.

Western Kentucky

Everything is getting set for one of the most active seasons in new portions of the western division, especially in Ohio, Daviess, Hancock, Breckenridge, Henderson, Union and other counties, as a few days of sunshine brought out the scouts and leasers are after every available acre left unleased anywhere near production and many leases are being made distant from production where geologists say the outlook for commercial wells look good. A large number of strings of drilling tools are being brought into the field and they will find plenty of work according to advice from operators over the field. Just as soon as conditions are favorable to the moving of materials drilling will be rushed. Without doubt Barren County will get a good play shortly as the bringing in of the well that pumped 12 bbls. per hour is an incentive. This new well, as stated, was drilled by the Wood Oil Co., in No. 4 on the J. W. Pace farm, in the Lecta Pool, and is estimated around 200 bbls. initially at a depth of 525 feet. No. 5 is under way. In this pool, Norris Brothers' No. 5 on the C. B. Jones lease, is a 100-bbl. producer, with Nos. 6, 7 and 8 under way on the same lease.

Esslinger Oil Co. drilled its initial well on the W. S. Morton farm, to 510 feet, getting a 5-bbl. pumper. No. 2 was also a 5-bbl. pumper at 520 feet, but No. 3 came as a surprise, doing 50 bbls. initially at 503 feet. Same company's No. 1, on the E. L. Morton farm, showed only 2 bbls. initially at 520 feet, and No. 2 is drilling for the same company on the Glass farm.

The Wood Oil Co.'s No. 3, on the Howen farm, is a 15-bbl. initial producer at a depth of 517 feet. Smith & Snyder's test, in the same pool and on the E. Baker farm, is a 5-bbl pumper at 574½ feet. Hunt and others' No. 5, on the Walter Browning farm, is a 25-bbl. initial producer.

One of the outstanding leases in Barren County is the Vance Taylor, operated by Hunt, Mitchell and others. There are now 23 wells on the lease, and the lease is doing approximately three 100-bbl. tanks daily, while its wells on the Walter Browning farm, numbering 5, are pumping at the rate of three 100-bbl. tanks of crude weekly. Neither of the leases is being pumped to extremes. J. D. White is drilling No. 1 on the Pedigo farm and drilling Nos. 8 and 9 on the Nichols lease.

South of Barren County, Hunt and others are working at a test on a lease along the Tompkinsville Road. In the Dillons Mill section of Monroe County, Captain Carpenter has a well in that area.

Out of Owensboro

Activity in drilling prevails in what is known as the Tri-County Field, of Hancock-Ohio-Daviess Counties, but since that name was first recorded things have changed to a considerable extent as oil in commercial quantities has been found in the adjoining counties of McLean, Breckenridge, Henderson and Union and there is no telling where the former Tri-County Field will extend. The next thing known the field may extend across the Ohio River into southern Indiana. To enter this field from the north, east or west, the jumping off point is Owensboro, while coming from the south other towns like Hartford, Whitesville and numerous other villages are near the center of the field.

Daviess County

Northeast of the town of Utica, in Daviess County, Miller & Damron drilled into 31 feet of sand at their test on the Jim Brown farm, and the drillers are proceeding slowly in fear of getting the water sand. The drill passed through 9 feet of nice oil pay and it has all indications of a nice producer. The Brown farm well is about 2 miles southwest of the Percy Jolly and others well on the Tom Stevens farm, in which a break was encountered in the sand showing water. It is reported that the Stevens well will be drilled for a lower sand in hopes of being able to ease off the water and save the well. Drillers in the area of the Stevens farm well are going along carefully for fear the same results will be found as in the Stevens well. The Brown well, while it may not prove as large as the Hayden farm producer, makes the operators sit up and look.

The coming few weeks should see a rapid development in the southern part of Daviess County and the northern area of McLean County, as there are numerous wells drilling throughout that section since the finding of the good well on the Hayden farm, in Daviess County and the good producer by Dimmick Brothers, on the Ratliff farm, in the northern part of McLean County. The McMahon & Coombs well, on the W. V. Lewis farm, between Boston and Habit, 4 miles southeast of Philpot, in Daviess County, which is estimated around 40 bbls. or better, also adds what looks like a large area of producing territory, almost virgin to the drill.

Clarence A. Leeper, of the Leeper Oil Co., is said to report the No. 3 well on the Barnett farm, east of the Roby farm,

FOREST FIELD OF HARDIN COUNTY, O., HAVING ACTIVE DRILLING CAMPAIGN

By Whit
Staff Correspondent, Central West Fields

FINDLAY, Ohio, Feb. 11.—But little work is being done at this time in any division of the Central West Field, comprising the Lima Field of northwestern Ohio, central Ohio, Indiana, Illinois and Michigan, due to inclement weather conditions and the inability to move material at a normal cost.

In the southeastern portion of the old Lima Field of northwestern Ohio, in the northeastern part of Hardin County and the western portion of Wyandot County, near the towns of Forest and Wharton, efforts are being made not alone to develop oil wells but gas as well and in some instances nice gas showings have been found, but as to oil the indications have been very light. Out of the last five completions made in the Hardin County territory, all have proven gas, ranging from 100,000 to 2,500,000 feet. A record of these wells follows:

William F. Kurtz Co.'s No. 2 Dickelman farm, 700 feet north of No. 1, same farm, on the Lost Dome, in the Forest Field of Hardin County. In this well 19 feet of drive pipe was set; 258 feet of casing. Top of Trenton sand was 1,251 feet, drilled 45 feet in sand to total depth of 1,296 feet. A 100-quart shot was placed from 12 to 33 feet in the sand. Good for 500,000 feet of gas. This well, with No. 1 on the same farm and one on the Baker farm, was turned into the line of the Empire Gas & Fuel Co., thence 8 miles south into the Mid-land Utilities Co., which was leased and operated by the Ohio Public Service Co.

No. 1 on the McNutt farm, same area, by the same parties, which contained 27 feet of drive pipe and 263 feet of casing. Top of Trenton was at 1,235 feet and drilled 35 feet in the sand, but was not shot and showed a volume of 2,500,000 feet of gas, which makes it the outstanding well of the field. It is also being handled by the same pipe line.

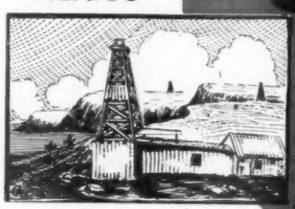
Talbot & Sackett of Chicago drilled No. 1 on the Martin Hayes farm, same area. In this well there are 38 feet of drive pipe, 268 feet of casing and Trenton was topped at 1,281 feet and drilled 41 feet in the sand to a total depth of 1,322 feet and shot with 100 quarts, the gas being found at 12 feet in the sand. Volume of 150,000 feet gas. This well is on a 12-acre lease about 1,200 feet due west of No. 2 on the Dickelman farm. Same operators drilled No. 1 John Stephens farm, 600 feet from the north and east lines of the lease, three-quarters of a mile west and one-eighth mile south of the McNutt farm well, and in Section 24, Jackson Township. In this well there are 20 feet of drive pipe, 242 feet of casing. Top of sand was struck at 1,237 feet and drilled 45 feet in the sand to a total depth of 1,282 feet and shot with 140 quarts, the gas being found at 12 feet in the sand, resulting in a 100,000-foot gasser. Same parties drilled No. 1 on the Wilmoth farm, about 2,400 feet due south of the McNutt farm well, and three-quarters of a mile southeast of No. 1 Stephens well and one-half mile west of No. 1 on the Frank McKinley farm. In this well there are 9 feet of drive pipe and 233 feet of casing. Top of sand was at 1,228 feet, drilled 52 feet to a total

(Continued on Page 65)

Conservo
Low Pressure Gas Burners

VENEZUELA

MEXICO



More HEAT from LESS Gas in ~ MEXICO and VENEZUELA

Among the important producers that have recently placed repeat orders for CONSERVO Burners are two widely known concerns operating respectively in Mexico and Venezuela. The CONSERVO'S world popularity is attributable to the fact that it furnishes *more heat* from *less gas.* Gas and air are proportioned so as to secure complete combustion, and the heat is distributed evenly. Easily installed, the use of brick unnecessary.

"It CONTINENTAL Sells It, There Is No Better"

THE CONTINENTAL SUPPLY COMPANY
General Offices: St. Louis

Export Office: 74 Trinity Court, New York
London Office: 316-317 Dashwood House, Old Broad St., E. C. 2.
THE CONTINENTAL SUPPLY COMPANY, Ltd.
69 Thomas Block, Calgary, Alberta, Canada

CONTINENTAL

Protecting Threads till they arrive on the job!

SELECTED materials, modern methods, expert supervision and rigid inspection of each length of pipe are representative of careful mill practice to produce uniform high quality in "NATIONAL" Oil Country Goods. But interest in quality does not end at the door of the pipe mills.

In order to protect this quality, particularly that of good threads, and to assure operators of receiving material in as near perfect condition as possible, it is the practice of this Company to use a special form of thread protection known as ring and nipple protectors, which are screwed into the coupling and over the threaded end of the pipe before shipment. Five important features of these protectors are:

1. Rings and nipples are taper threaded to fit all sizes and classes of material.
2. Total length of pipe thread "A" is protected, as well as that portion of coupling thread "B" that engages with pipe thread.
3. Form of rings and nipples are such as to provide maximum strength for weight of ring and nipple.
4. Ends of pipe and couplings as well as threads are fully protected.
5. There is no additional cost for this special protection.

Such protection is desirable not only for long hauls by rail into the Mid-Continent, Gulf Coast and California fields but also in unloading and transporting pipe to the derrick. Successful use of pipe, however, does not depend alone upon the manufacture. Your cooperation in adopting careful methods of handling in the field is necessary to assure full advantage of this special protection. Thread protection is another evidence of service which has made "NATIONAL" products —*Standard of America's Oil Fields.*

NATIONAL TUBE COMPANY, PITTSBURGH, PA.

District Sales Offices in The Larger Cities

near St. Lawrence, as doing 100 bbls. in 14 hours. This is the best looking well yet reported from the St. Lawrence area.

D. J. Bolling and others' test on the Haxell Miller-Aud farm, is reported showing very light. Noe and others are drilling at a test on the Whitley Deer farm, and the Atlantic Refining Co. is reported drilling a test on the Trodgen farm. Nall and Bryant are drilling on the Hopston farm, and unknown parties have started a well on the Rabbitt Ranch, while Orville Jenkins is drilling No. 1 on the J. W. Woods 2 acres.

Ohio County

Some very nice producers are being developed in parts of Ohio County. James C. Ellis drilled Nos. 1 and 2 on the J. T. Hoagland farm, reported at around 150 bbls. initially each, while his No. 3 on the Jane Daniels farm, adjoining the big lease of Bob Hamilton, southeast of the Ambrose Pool, and between there and the Sunnydale Field, near Mount Moriah Church, is reported at 100 bbls. initially.

In the Ambrose Pool, the Rex-Pyramid Oil Co.'s No. 3, on the Frank Lake farm, is a 50-bbl. initial producer.

Joe O'Hair's No. 1, on the W. S. Howard 6 acres, is a 10-bbl. initial well. A string of 385 feet of casing was set in this hole, and found from 385 to 393 feet and drilled to a total depth of 395 feet and shot with 40 quarts.

James C. Ellis drilled what is reported a dry hole at his No. 4 on the J. Spence Bartlett lease. Rex-Pyramid Oil Co. is drilling No. 11 on the W. S. Ambrose farm, in the Ambrose Pool. In the same pool, Daugherty and others' No. 10, on the Cora Wells lease, is rated around 125 bbls. initially.

S. H. Russell and others' No. 5, on the A. P. Kelly 340 acres, is good for 20 bbls. initially. A string of 408 feet of casing was set in this hole, sand at from 408-38 feet, drilled to a total depth of 438 feet and shot with 80 quarts. No. 6, same farm, is starting. Wood Oil Co. is drilling No. 2 on the R. A. Duke 200 acres, and unknown parties are drilling a well on the A. F. Midkiff lease, in the Sunnydale Field.

The Ohio Oil Co., drilling on the Foreman farm, 2½ miles north of Dundee, in Ohio County, found a showing of oil, but with no facilities for handling the production have made no effort to bring out the well. The tools and rig have been moved to the Jesse Mattingley farm, a few rods from the Basham School and will put down another test hole. Other operators are now going into that end of the field and making some competition, which may cause a further development sufficient to justify putting in a lateral to the pipe line.

No. 2 well, on the V. J. Steele poultry farm, near Buford in the western part of the County, is 500 feet to the east of No. 1 same farm. No. 1, which has been on the pump for some time, is said to be doing around 15 bbls. daily.

Allen County

In the northeastern part of Allen County, in the Gainesville Field, in the horseshoe bend of the Barren River, S. W. Lowman and others' No. 8 well, on a strip of the E. H. Woods 2,700-acre ranch, showed an initial production of 64 bbls., from a depth of 265 feet. This territory appears to be of the hit-and-miss kind as good producers have been found in an area practically surrounded by dry holes.

Warren County

One completion is reported from Warren County, and that was a dry hole drilled by the Ohio Oil Co. in a deep test on the John Richards farm, about 16 miles north of Bowling Green. It is a dry hole after going to a depth of 1,852 feet.

Tennessee

In the Celina Field, in Clay County, Tennessee, an occasional good well is brought in. E. A. Brandenberger and others' second test on the C. A. Greenwood property, found a 40-bbl. initial producer in the Second Sunnybrook sand at a depth of 450 feet. McDonnell and Kraft's test, on the B. C. Thompson land, is good for 15 bbls. at a depth of 500 feet.

Bovard & Shirk's test, on the Davis farm, in the Celina Field, is credited with an initial of 5 bbls. at 600 feet.

Wittmer Oil & Gas Co. found a dry spot on the Sidwell lease in the Second Sunnybrook sand. J. L. Miller got another in No. 4 on the Keisling farm, in the same sand at 550 feet.

Near Spring Creek, in Overton County, Alexander and others' test on an unknown piece of land, struck a nice gas sand at 550 feet.

Near Gainesboro, in Jackson County, W. L. Hughes found a dry hole, and the Pittsburgh Oil & Gas Co. hit another on the Tom Draper farm, same county.

CENTRAL WEST FIELDS

(Continued from Page 62)

depth of 1,280 feet, and shot with 100 quarts, estimated around 150,000 feet.

Lost Dome Levels

Sea levels at some points on Lost Dome at the surface of the earth follow: McVitty Quary, 928 feet above sea level; Stephens No. 1 well, 928 feet above; No. 1 McKinley farm, 905 feet above; No. 1 McNutt farm, 902 feet above; No. 1 Baker farm, 922 feet above; No. 1 Dickelman farm, 903 feet above; No. 2 same farm, 904 feet above; Kurtz farm, No. 1 well, 902 feet above; No. 1 Hayes farm, 926 feet above; and No. 1 Wilmoth farm, 911 feet above sea level.

Hertzog & Son set a string of 60 feet of drive and 290 feet of casing in No. 2 well on the Kraft farm on Lost Dome. The casing in this well is set 10 feet in the Red Rock by the drillers, whereas it has been customary on other wells drilled in the field the past year to set casing in second break. This would make a difference of 20 feet in the casing used between the different contractors, which if this 20 feet were deducted would make on same basis 270 feet, which would be the same as No. 1 Dickelman well, about 300 feet northwest of the Kraft test, which has been shut down on account of weather conditions.

Forest Field is the point where the sour gas was reported some time ago. The Insull lines and city plants at Forest have been using sweet gas and the consumers use open top stoves with no chimneys, and the Trenton rock (sulphur) gas stirred up something when turned in. However, as this gas is needed as a booster at this particular point, it is understood that arrangements are to be made to purify this gas so it can be used in west Ohio plants. With the recent showings of wells running as high as 2,500,000 feet and but one dry hole found so far on Lost Dome and only the surface scratched this looks very good for a permanent supply for the pipe lines in that vicinity. Due to scarcity of gas in that section for outside consumption, until now the gas produced in the field, aside from what was used at Kenton a good many years ago, has all been used in the village of Forest and in the lime and stone plant of John Hertzog & Son, who own the Forest Gas & Oil Co., which supplies Forest with gas.

The following companies and parties hold leases in the Forest area in considerable amounts, in fact the big end of desirable leases are now picked up, and the understanding is additional drillings will commence in the early spring: The Forest Gas & Oil Co. (John Hertzog & Son), the Wyoming Gas & Oil Co., Sackett & Talbot (Petroleum Exchange), Chicago; Silsbee & Barker, Evanston, Ill.; Harmon & Watts, Mansfield, Ohio; Chicago Producers Co.; the Kemrow Co., Wooster, Ohio; the Kurtz Gas & Oil Co. and the Wharton Gas & Oil Co. If this gas cannot be used for fuel purposes it can be of great use to manufacturing concerns and there is a nearby pipe line that is in position to take this gas as industrial gas if there is any delay in purifying it for domestic use.

Indiana

A few scattered completions were made over a wide area in Indiana, but none of any great importance, although a few were in advance of production. In the south western portion of the state, William Ball and others' test, 690 feet from

(Continued on Page 69)

Handles large quantity of gas at atmospheric pressure with an ordinary quantity of oil

Type "M" Lorraine Gas and Oil Separator

TYPE "M" A NEW LORRAINE GAS and OIL SEPARATOR

Proven supremacy by actual operating tests

The Lorraine Type "M" Gas and Oil Separator is designed expressly for handling a large quantity of oil and gas at atmospheric pressure with an ordinary quantity of oil. How well it succeeds is evidenced by actual operating tests where it is now used.

This latest Lorraine Separator is of entirely new design embracing many advantageous features for the particular service intended. The float, ordinarily operating in an angular motion, rises in a direct vertical line in the type "M" model which provides ease of valve operation and greater accuracy. The regulation is uniform to a degree of perfection and separation is always clean and complete irrespective of the gravity or condition of oil. Both oil and gas valves can be adjusted from outside. The Type "M" Oil and Gas Separator, as in other Lorraine products, reflects Lorraine foresight and aggressiveness.

This design and other Lorraine super-specialties of efficiency are fully described in the Lorraine catalog which will be mailed on request.

THE LORRAINE CORP.

Manufacturers and Distributors
OIL WELL SPECIALTIES
115th and Alameda Streets
Los Angeles, Calif.

Oklahoma Branch:
The Lorraine Corporation,
Percy D. Hammer, Agent,
406 West First Street,
Tulsa, Okla.

Arkansas Branch:
Southern Specialty Co.,
523 S. Washington St., Box 1796
El Dorado, Arkansas

Kern County Representatives:
New Method Pipe Slotting Company
Phone 465 Taft

Field Problems and Their Solution

EDITED BY THOMAS F. SMILEY

In order that men connected with the drilling, producing and transporting branches of the petroleum industry may procure quickly a solution of many problems confronting them from time to time in their work, The Oil and Gas Journal has arranged with leading engineers and other recognized authorities to answer questions submitted by readers of this publication pertaining to the work of drilling and producing crude oil and transporting this product.

Everyone is invited to submit questions freely. These questions will be submitted to proper authorities by Mr. Smiley, who edits the page, and answers, based on the best available information, will be published. Each question should give as much detail as possible, especially where it relates to matters where depths of sands, types of sands and operations on adjoining properties would have a bearing on the problem involved. The source of all questions will be considered as confidential and only initials will be published in connection with the question.

In this connection, The Oil and Gas Journal will be glad to publish articles from field men who have devised new methods or practices which are improvements.

In case an immediate answer is important, one will be given by mail if the writer requests it.

PUMPING BELOW TOP OF SAND

What are the reasons for and against pumping below the top of a sand? Apparently there are good reasons for adopting either practice or these differences of opinion would not exist.—G. H. M.

There is no objection to placing the pump barrel below the top of a sand provided the sand is not uncovered during pumping operations. Also there is no objection to doing it after the fluid level has dropped so low that pumping operations cannot be carried on efficiently unless the pump is placed as low as possible in the well. Under conditions other than those cited, it is recommended that the pump barrel be not placed below the top of the sand. If paraffin is present in the oil, uncovering of the sand results in a deposition of the paraffin on the face of the sand, with a consequent detrimental effect upon production. By keeping the sand covered at all times, the detrimental effect of vacuum on the sand is reduced. The gas factor is increased also when the sand is exposed, resulting in a more rapid rate of exhaustion and a smaller ultimate recovery of oil.

FISHING IN THE SEMINOLE

In connection with the excessive production costs in the Seminole Field I have heard it stated that fishing jobs there consumed an unusual amount of time. Are you able to tell me the average fishing time per well in that field?—F. X. B.

Approximately 1,250 wells have been drilled in the Seminole district, excluding the Little River and the 8-6 areas. Out of this number of operations there were 450 fishing jobs. This does not take into account those fishing jobs lasting a day or less, as many of these were not reported. The average for all fishing jobs was approximately 28 days per well.

FUNCTION OF SETTLING TANK

I wish you would tell me what is meant by a settling tank. The reference to it which I came across indicates that it is something about an oil well, not about equipment for processing oil.—E. H. T.

The settling tank is the tank into which oil is run as it is received from the well. This oil frequently contains free water or gas. These are separated in the settling tank. Flow tank and receiving tank are other names, and probably in your locality the tank is known by one of these designation.

NORMAL FLUID LEVEL

What is meant by the normal fluid level in a well? What would be the fluid level in an oil well if the well were flowing or in a gas well if the well made some water?—P. H. S.

The normal fluid level in an oil well would be the level to which the fluid rises under normal conditions with the well open to the atmosphere. Abnormal conditions would result in a lower fluid level. If the normal fluid level of a well has been determined and this level is seen to have lowered suddenly, it may be regarded as certain that some abnormal condition has developed, and an investigation should be made. Investigation may show that cavings from above have dropped, preventing the oil from entering the well.

The normal fluid (oil) level is usually thought of in connection with the fluid level on a lease, in a section of a field, or with respect to an entire field. Thus, when determining the fluid level in a well, its fluid level is compared with that of the average for a number of wells in order to determine whether the fluid level is normal. As the pressure in the sand declines the normal oil level will decline.

We ordinarily think of the fluid level as being a measure of the rock pressure in the producing sand. The effect of the expansion of gas brings about an unbalanced condition in the well as evidenced by heading or surging in the fluid column. What would be the normal fluid level under these conditions? Certainly not the maximum height to which the fluid will surge. At maximum surge the gas responsible for the surge reaches the top of the column and is released, whereupon the fluid level drops. Thus the level at which the fluid will remain more nearly stationary is considered the normal fluid level, and this condition exists when the work performed by expanding gas is at a minimum.

In a natural flowing oil well the forces causing the oil to flow are the available pressure at the bottom of the well and the work performed by the expanding gas The normal fluid level under these conditions would be the height to which the oil would be raised by the rock pressure.

The normal fluid level, or the water level, in a gas well is the level to which the water will rise due to hydrostatic head. When the work performed by gas in expanding enters into the problem the water level is no longer normal.

In direct contrast with the declining normal fluid (oil) level in oil wells where gas is the chief propulsive force in the sand, the fluid level in wells rises as the rock pressure in the sand declines. The normal water or fluid level for gas wells is the average level to which the water will rise with wells open to the atmosphere in a group of wells located on the same part of the structure. It also might be considered as the average height to which the water may rise in all wells drilled into the same sand.

In all of this discussion it is assumed that only one sand is considered. The normal fluid levels for two wells producing from different sands would not be comparable.

DEEP-WELL TEMPERATURES

How do they get the temperature of a deep well? What I mean is, how does any thermometer used in getting the temperature in a 3,000-foot hole, for instance, show the temperature at the bottom of the well when the thermometer is brought to the surface, where the temperature is much lower than at the bottom of the well?—G. T. H.

A type of thermometer known as the maximum thermometer is the type used in taking well temperatures. It differs from the ordinary type of thermometer in that there is a stricture in the mercury immediately below the mercury bulb. The stricture in the mercury line will not permit the mercury to drop back in the bulb unless the thermometer is suddenly jarred. To eliminate a possible jarring the thermometer is suspended by a spring attached to the line on which it is run into the well. The thermometer is inclosed in either a short length of heavy glass tubing or a metal tube in order to safeguard against breakage.

It is good practice to run three thermometers into the well at the same time in order to obtain a check. Thus an average of the two readings more nearly the same, if one reading differs from the others by an appreciable amount, represents the temperature at the depth to which the thermometers were run in the well.

MAKING AN IMPRESSION BLOCK

I have a fishing job on my hands and haven't made much headway. The bit is in the hole. I have abandoned the fishing job for the time being, but I have a notion that I could get the bit out if I just knew how it is standing in the hole. I wish you would tell me how to go about it to get an impression with soap or wax.—F. A. B.

There are several types of impression-blocks, as they are called. One type consists of a round block of wood 2 or 3 feet long and concave at one end. The concave end is filled with soap, tallow or wax. Another consists of a lead billet extending up into a casing collar. Still another is described in an article on "Ingenious Tools for Fishing Jobs," in The Oil and Gas Journal for November 10, 1927. It is made by fastening a cylinder of tin to the end of a round block of wood so that the tin projects beyond the wood several inches, making a sort of giant cooky cutter. The inside of the projecting tin cylinder is filled with the soap or other substance to be used. Nails driven part way into the end of the wooden block will anchor the matrix material.

When a soft substance like soap is used the impression block may be run in on the bailer or attached to the lower link of the jars by a pin joint on its upper end until its rests on top of the lost tool. When lead is used it is well to see to it that enough weight is applied to make an impression in the lead.

If you do not recover the broken-off bit by further fishing after using one of the impression blocks described here (one of those made with a round block of wood probably will serve your purpose best) it is suggested that you get a good impression in soap or wax and take it to the nearest dealer in fishing tools. If none is near you, send it by parcel post to such a dealer. You are pretty certain to receive helpful advice.

VALUE OF FIELD RECORDS

I notice that considerable criticism has been made about field records and would like to know what are considered good ones. I have been opposed to keeping a lot of records just to be keeping records if there isn't any use made of them. I have been keeping production records on wells for years and feel that they are in good shape.—S. D. G.

You are correct in believing it useless to keep records if no use is made of them. However, the question arises as to possible future use. For example, most companies failed to keep well records, such as casing records, formation records, accurate production records, history of wells during drilling and subsequently. If accurate records dealing with the points just enumerated had been kept, the repressuring of depleted sands could be carried on with greater certainty of success.

To anyone acquainted with field conditions and practices the terms "boiler-house," "dog-house" or "lazy-bench" records are familiar. Records of this type are not only useless but they are actually dangerous, because wrong interpretations based on these records as regards some important problem may result in a loss of money to the company. Many examples might be cited in substantiation of this statement. Too many field men in the past relied on their memory for well records.

Records which are of value and which insure a good return on the time and effort required to keep them include the following:

Accurate drilling records (inaccurate ones are useless) which consist of formation records, also a complete history of drilling. Such details as type of bit used, fishing jobs, location of tools left in the well, etc., when recorded, have often proved of value in later repair work.

Casing records and type of water shut-off effected. These are indispensable.

Completion records, which are based on individual well production measurements. These form the basis for determining the best procedure to follow in producing that particular well. Both gas and oil production measurements should be kept.

Pressure records, consisting of well and trap pressures. These aid in solving the many production problems daily confronting the field man.

An accurate record of fluid levels, the value of which often is underestimated.

While it has been the general practice to run the oil from two or more wells to the same tank or tanks and to estimate the daily production of the individual well, many companies are now gauging the production from each well. Estimated individual well production is of no value and often a detriment when investigating production problems. Even occasional accurate individual well gauges, especially on settled production, are to be preferred to daily estimates. The same applies to gas production records.

To illustrate, one company makes it a practice to measure the gas produced with the oil once a month on all wells on settled production. This record not only provides information as to the best way in which to produce the wells but also gives the gasoline department data from which future equipment removals, changes in plant operations and other pertinent details may be anticipated.

Undoubtedly the recently created petroleum engineering section of the American Petroleum Institute will devise and recommend for adoption standard forms for drilling and production records as was suggested by A. C. Rubel, petroleum engineer, Union Oil Co. of California, at the recent American Petroleum Institute meeting in Chicago.

Parkersburg

HAS SERVED THE OIL FIELDS OF THE WORLD FOR THIRTY-ONE YEARS

Steel Derricks

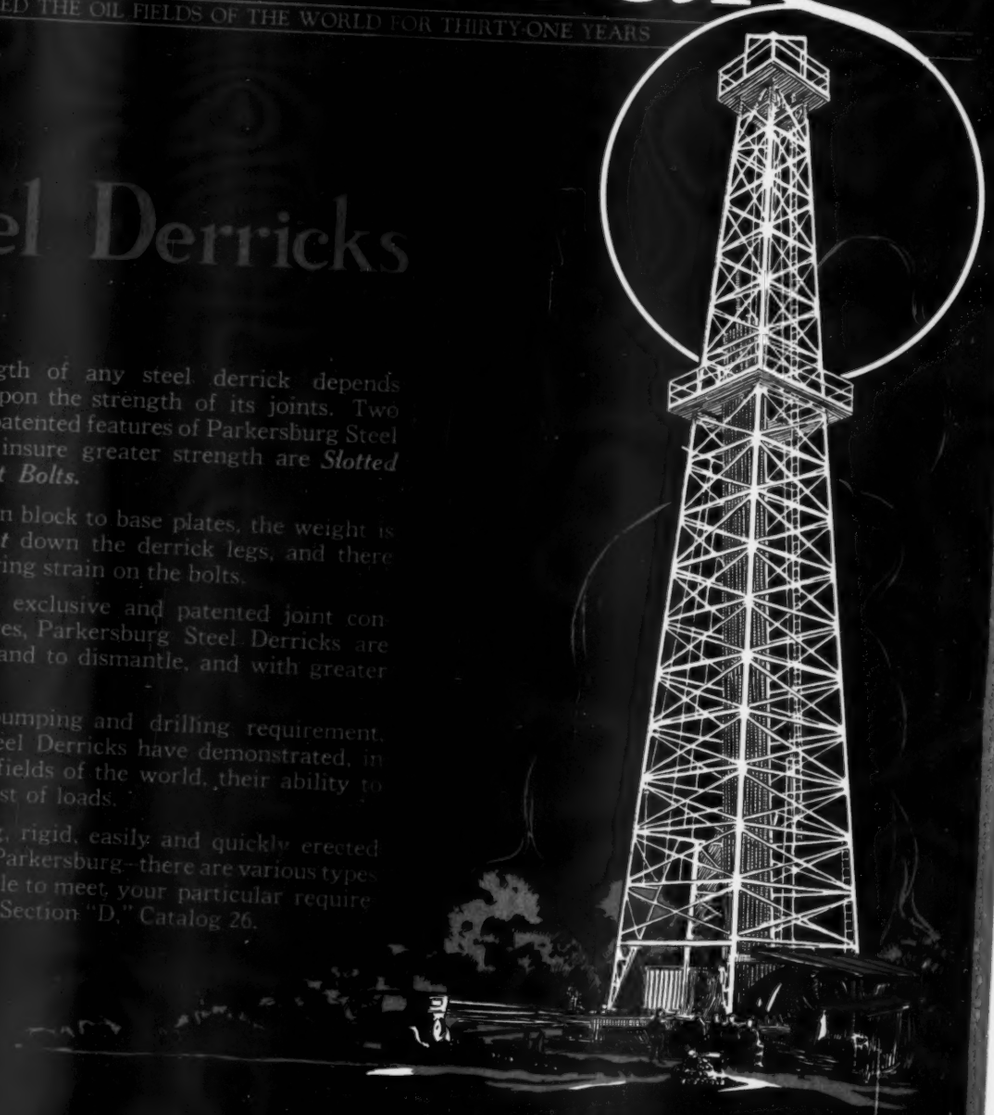
THE strength of any steel derrick depends largely upon the strength of its joints. Two exclusive and patented features of Parkersburg Steel Derricks that insure greater strength are ***Slotted Joints*** and ***Slot Bolts.***

From crown block to base plates, the weight is carried ***straight*** down the derrick legs, and there never is a shearing strain on the bolts.

With these exclusive and patented joint construction features, Parkersburg Steel Derricks are easier to erect and to dismantle, and with greater speed.

For every pumping and drilling requirement, Parkersburg Steel Derricks have demonstrated, in the oil and gas fields of the world, their ability to carry the heaviest of loads.

For a strong, rigid, easily and quickly erected derrick specify Parkersburg—there are various types and sizes available to meet your particular requirements. Send for Section "D," Catalog 26.



The PARKERSBURG RIG & REEL COMPANY

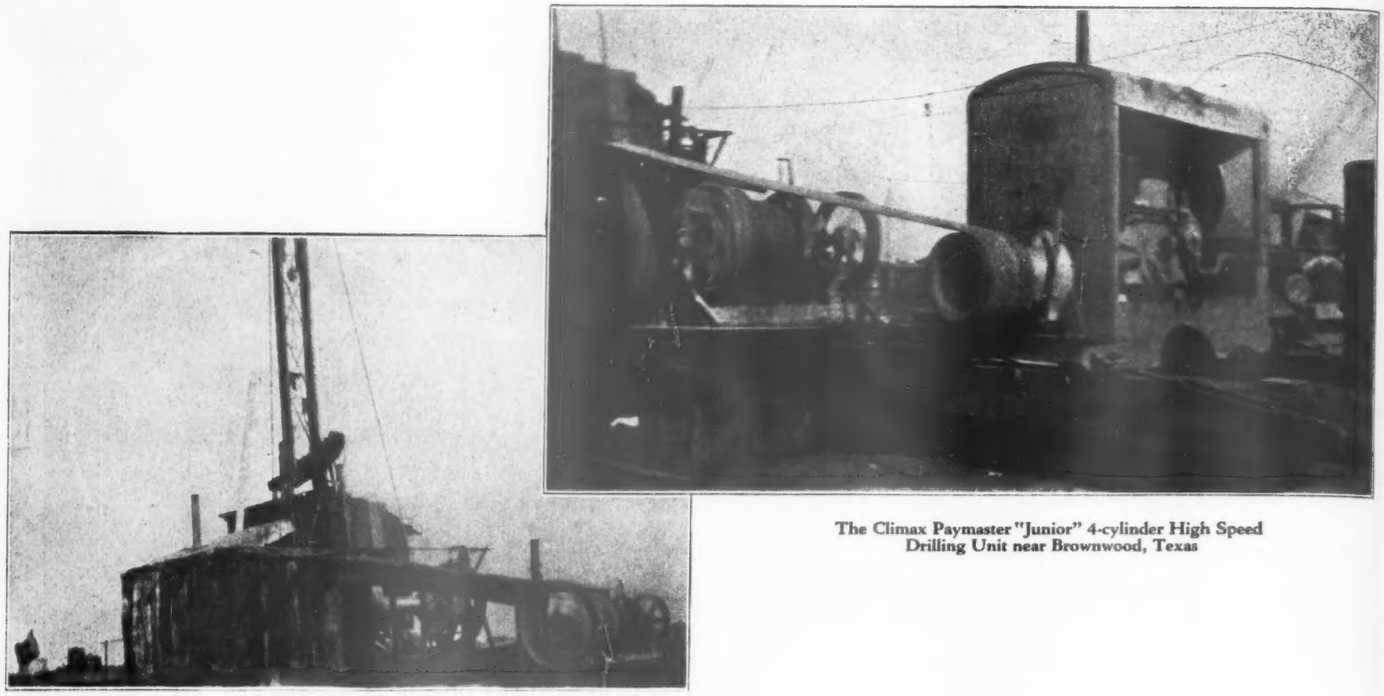
Executive Offices & Main Plant, Parkersburg, W. Va., U. S. A.

Sales Offices Maintained and Stocks Carried in Every Producing Field

Parkersburg Products

- Steel Derricks & Steel Crown Blocks
- Chain Driven Sand Reels & Bailing Reels
- Steel Wheels
- All-Steel Standard Rigs
- Rig Irons (A.P.I. Standard)
- Portable Drilling Machines (Wood & All-Steel)
- Bolted Steel Tanks
- Miscellaneous Drilling Equipment

Check the equipment in which you are interested, tear out and return this page, with your name and address, to us, and we will send you complete information on the items checked.



The Climax Paymaster "Junior" 4-cylinder High Speed Drilling Unit near Brownwood, Texas

Shaw and Lamb Cut 6 Days Off Their Spudding-In Time

Shaw and Lamb, contractors of Brownwood, Texas, know what speed means when operating a Climax High-Speed Drilling Unit. On December 16th they pulled up at Lease No. 2 Gwathmey in Brown County near Brownwood, Texas, with their Paymaster "Junior" 4-cylinder unit and National 2-A portable drilling rig. Just 4 days later, on December 20th, the spudding-in was FINISHED. That was 6 days quicker than is normally possible with either steam or oil-engine power—and a 6-day "jump" represents a big saving when figuring the profit per hole.

CLIMAX ENGINEERING COMPANY
76 West 18th Avenue Clinton, Iowa

CLIMAX Trade Mark Reg. U.S. Pat. Off.
High-Speed Drilling Units

DISTRIBUTED BY
THE NATIONAL SUPPLY COMPANIES

CENTRAL WEST FIELDS

(Continued from Page 65)

the south line and 1,080 from the east line of the Catt-Hatifield farm, in the SW of Section 6, Washington Township, Gibson County, showed an initial production of 25 bbls., after given a shot. Top of sand found at 1,557 feet and drilled 13 feet in to a total depth of 1,570 feet.

In the "Little Oklahoma Pool," in Prairie Creek Township, Vigo County, the Siosi Oil Corp.'s No. 8 well, 990 feet from the south and east lines of the William Riggs farm, in the SE of the SW Section 31, found the pay sand and went to a total depth of 2,191 feet, the well having an initial production of 30 bbls. Nos. 11, 12 and 13 are reported on the same farm.

A wildcat drilled by B. J. Dunning on the Luther Hert farm, Section 18, Barket Township, Martin County, 4 miles north of Indian Springs, struck a dose of water at a depth of 735 feet and is to be abandoned, as the hole filled with water. This is in the Loogoottee district and in the northeast part of the county.

The Morristown Gas Co. drilled in a light gas well at a test on the Belle Linville farm, in Hanover Township, Shelby County, not far from Morristown, in the northeastern portion of the county. In Rush County, to the east of Shelby County, T. E. McCoy drilled a well on his own farm, near Rushville, in the center of the county, getting a fairly good gasser at a depth of 876 feet. In this well the Trenton was topped at 855 feet and drilled 12 feet into the sand.

Claude Thompson is drilling a wildcat on the Frank Dodson farm, 3½ miles northwest of Summittville, in the northern part of Madison County, north of Alexandria and between there and Marion.

In the southern portion of the State, in the Dogwood area of Harrison County, in Boone Township, the Louisville Gas & Electric Co. drilled a hole to a depth of 1,700 feet in No. 2 on the Roy Duggins farm, south of Corydon and between there and the Ohio River, but failed to find either oil or gas in commercial quantities and at the same time went close to 1,000 feet deeper than the gas has usually been found in the numerous wells drilled in that part of the county. In the same field, the same company secured fairly good gas wells in two others just completed at close around 700 feet in depth. One is on the Charles Bryant farm and the other on the Lee Estill farm.

In Gill Township, Sullivan County, the Dome Oil Co. found a small gas producer on the Morris Unger farm, Section 26. H. B. Milligan and others are drilling a wildcat on the George Carbon farm, Section 28, Jefferson Township, same county.

In the old Trenton Rock area of the eastern portion of the State, Nick Master's test on the Charles and William Kemp farm, Section 36, Pike Township, Jay County, and about one-half mile east of the once productive Hotmire Pool, and got a 5-bbl. pumper.

Indiana Operations

T. M. Kingsbury, state gas supervisor, the Department of Conservation, Division of Geology, Indianapolis, last report compiled of operations in the various sections of the State, says in part:

"Fountain County.—It is reported that work on the test of the William B. Coffing farm, near Covington, which was started last spring and abandoned last fall at a depth of 2,590 feet, will be resumed soon and plans are being made to drill it more than 4,000 feet.

"Pike County.—The best well recently completed in the southwestern Indiana area was the Enos Loveless No. 9, Logan Township, drilled by Perry Andrews. It was reported as a 70-bbl. well, the producing sand being encountered at about 1,350 feet. Arrangements are being made to drill No. 10 on this farm. Another good well was brought in by the Mahutska Oil Co., reported to have initial production of 50 bbls. It was J. Lundy's No. 1 in Clay Township, about 2 miles north of the Mt. Olympus Pool. The Wiser Oil Co. recently brought in two wells in Logan Township, each reported to be good for 10 bbls. They are the Charles Rumble No. 2, Section 13, and William Phillips' No. 5, Section 23. The Oaktown Oil Co. got a dry hole on the Ralph Robling farm, Section 14, same township, near the Oatsville Pool. Moulton and others drilling on the Preston lease in Washington Township, east of Petersburg.

"Randolph County.—No report received from the test being drilled on the Joseph Meek farm, Monroe Township, by Wesner and others. Another well has been started by F. E. Reckow on the H. Miller farm, Section 20, Stoney Creek Township.

"Spencer County.—Another test well has been completed near Gentryville, which is reported dry. This well, drilled by the Premium Oil Co., is on the Hoover farm, Section 2, Jackson Township. Initial production of the well on the Richard Phillips farm was 30 bbls., but last reports stated it had dropped to 6 bbls."

Numerous inquiries have been made in reference to the development work in what is known as the Medarysville Field, in Pulaski and Jasper Counties, in the northwestern portion of Indiana. A recent trip over that area during the late fall season failed to find any signs of drilling operations, although much leasing has been done in that part of the State, as well as to the north in the southwestern portion of Michigan. The leasing in the latter State is not confined to any one county, but extends to quite a number from the Indiana-Michigan line north to and above Muskegon.

Illinois

High water, mud and other inconveniences have brought about a slowing down of operations in all parts of Illinois, as in many spots it is impossible to move materials or drilling outfits over the farms or over many of the country roads. It is possible to move loads over the macadamized highways, but getting the material to the well locations makes the heavy cost of a well.

Only two completions were reported and they are far apart. In the Allendale Field of Wabash Township, Wabash County, the Breen Oil Co.'s No. 3 well, 200 feet from the south line and 260 from the west line of the L. G. Stillwell farm, in the northwest quarter of Section 2, and in the heart of the productive area, came in with an initial of 45 bbls. at a total depth of 1,401 feet. Top of the sand was found at 1,381 feet and drilled 20 feet in.

In the northwestern portion of the State, in Bethel Township, McDonough County, Philip Elting's test in the southwest corner of the T. Stoneking farm, in the SW of Section 33, was pronounced a dry hole at a depth of 590 feet. Some nice production was found in this county at very shallow depths about a dozen years ago, but results have not been too encouraging for wildcatting.

Central Ohio

In Monroe Township, same county, the Empire Gas & Fuel Co. is drilling No. 1 on the F. C. Close farm, Lot 23. In Richland Township, the East Ohio Gas Co. is drilling a test 660 feet from the north and west lines of the A. E. Harford 97 acres, Lot 14.

In Ashland County, Green Township, the Ohio Fuel Gas Co.'s test, 1,320 feet from the south line and 600 from the west line of the Jacob Kettering 72 acres, Lot 26, is a nice gas producer from the deep Clinton formation. In Troy Township, Hulse & Kundtz have an average gas producer in a second test, 1,000 feet from the north line and 510 from the east line of the R. H. Hartsmiller 50 acres, Lot 1, and the Logan Gas Co. has made a location for a test 660 feet from the south line and 1,020 from the east line of the G. R. Motter 101 acres, Lot 3.

In Medina County, Chatham Township, Johnson & McGrath's test on the L. H. and S. E. Brinker farm, Lot 10, came in a dry hole in the shallow sand at 255 feet.

In Lorain County, Columbia Township, the Empire Gas & Fuel Co.'s second test,

(Continued on Page 89)

Garlock Helps Solve the Mechanical Packing Problems *of the* World ~

GARLOCK PACKING SERVICE is known to every tongue that speaks an industrial language. It helps to solve the Mechanical Packing Problems of the Meat Packing Plants of the Argentine, the Gold Dredges of Alaska, the Manufacturing Plants of Japan and the Oil Fields of the Balkan States.

Manufacturers of any type of Mechanical Units requiring packing, whether sold to the domestic or export trade, should obtain information relative to Garlock Packing Service. It not only includes the proper design and development of the initial packing requirements of the machine, but extends to the needs of the purchaser when the equipment is placed in use.

Any piece of machinery packed correctly in the beginning and kept packed right, enhances its value to the ultimate user.

THE GARLOCK PACKING COMPANY
PALMYRA, NEW YORK

Progress of Drilling in the Irak Field

No Question About the Gusher Producing 95,000 Bbls. a Day Until Capped. Other Developments Abroad

By Special Correspondent

When the drilling by the Turkish Petroleum Co. of Palkhana well No. 1 in Irak was started on April 5, 1927, the necessary fuel was obtained practically on the ground, for near by (within a few hundred yards) were ancient seepages. A small rig was used in drilling a small well 65 feet deep which produced 100 bbls. of fuel oil daily and furnished the prime movers of the large rig at Palkhana No. 1 with sufficient fuel. This small, shallow well is now capped, and fuel for drilling purposes is being obtained from the gusher at Baba Gurgur.

The Palkhana well No. 1 is to be abandoned, and is to be cemented in to prevent the mixing of the oil and the water of different strata.

The rig at Palkhana No. 1 is not to be removed to a place near the gusher at Baba Gurgur but will probably be reerected at some place near Palkhana No. 1.

Oil and gas were struck in Palkhana well No. 1 at 1,320 feet; at about 1,250 feet oil was likewise struck at Palkhana well No. 2 (not many miles away) which produced, until mudded in, at the rate of 700 bbls. in each 24 hours.

From Palkhana well No. 1 to Sulaiman Beg (railway station about 5 miles) there are two pipe lines, one 2-inch for water and one 3-inch for oil. Also from Palkhana well No. 1 to Tur Khurmatu there are two pipe lines for water, one 3-inch and one 4-inch.

At Palkhana well No. 2 oil was struck at about 1,260 feet which produced at the rate of 700 bbls. a day. After mudding in, drilling was continued until the well is now over 1,900 feet deep.

There seems to be no question but that the gusher at Baba Gurgur was producing at the rate of 95,000 bbls. a day until capped. The oil was spoken of as having a paraffin base and high gasoline content. At the time it came in reports referred to the oil as 34 gravity oil. Later test showed it to be 37.4 and still later it seems that the Baba Gurgur oil is 32 or 32.6 gravity oil. The retaining rock is said to be limestone.

Between Baba Gurgur and Kirkuk (about 6 miles) there are two 3-inch pipe lines and one 2-inch pipe line.

The Turkish Petroleum Co.'s well at Gaiyara (about 760 feet) is reported to have passed three different oil-bearing strata, each of which produced oil at the rate of 5,000 bbls. a day until each stratum was in turn cemented in. The company now expects to strike the real oil bed after drilling about 100 feet deeper. Gaiyara oil is said to be heavy oil with asphalt base, and 22 gravity.

England's Oil Imports

Crude oil imports have been particularly heavy throughout 1927, and continued at about the year's average rate during the last month in the year, after a temporary slump in the preceding period. An increasing percentage of domestic requirements for refined products is being met by local refinery output, and this tendency seems likely to continue. The usual proportion of the total crude imports during December came from Persia, with substantial shipments also from Mexico, Curacao (Venezuelan oil), and Colombia.

Receipts of lubricating oil were rather under the average figure, with the United States supplying almost the whole amount, one small shipment each from Russia and Mexico, and the usual small shipments from the Continent constituting the only items in this category from other sources.

The seasonal decline in gasoline consumption continued to be reflected in lower imports of this product, although the total receipts were not substantially below the monthly average and in fact showed a small increase over the preceding period. Substantial receipts of gasoline were recorded from Persia (the second of the year from that country), Curacao and Rumania, while about 500,000 gallons came from the Netherlands East Indies. Russia furnished only one small shipment of less than 40,000 gallons, the consumption of Russian oil products showing an appreciable reduction over the early part of the year.

Kerosene imports were somewhat under the year's average probably also reflecting the decrease in gasoline requirements, as fair quantities of the kerosene brought into the country are for the purpose of cracking. Outside of American oil, the largest receipts of kerosene were from Rumania, which supplied about 2,500,000 gallons, while 2,000,000 gallons came from Russia, about 1,000,000 from Mexico, and smaller shipments from Curacao and the Continent.

Fuel oil imports continued without marked change either as to total or source of supply, Caracao furnished half of the quantity received, with the balance from Mexico, the United States and Trinidad. Gas oil imports, however, were the smallest of the year, only 1,500,000 gallons being recorded, almost all from the United States. For the seven months, May to November, 1926, total imports of Soviet oil into Great Britain are given at 40,445,000 imperial gallons, and in the corresponding period of 1927 the imports have dropped to 24,595,000 gallons, a decrease of nearly 16,000,000 gallons, or 40 per cent.

Poland's Production

Polish crude oil production during the month of September, 1927, according to preliminary statistics, was as follows:

	Metric Tons
Drohobycz	52,250
Jaslo	6,050
Stanislawow	3,171
Total	61,471

The slight decline in crude oil production which occurred during September (579 tons less than in August) is said to be due to the floods in Galicia.

Production of crude oil of the Boryslaw brand amounted to approximately 45,500 tons, or 420 tons less than in August. On the other hand, the output of crude oil of other brands remained practically unchanged.

The average daily output of crude oil in the Boryslaw district amounted to 1,520 tons in September, compared with 1,480 tons in August and 1,500 tons in July.

Several important new drillings were reported to have been completed by the end of September but did not influence to any large extent the September production.

Stocks of crude oil on hand which have steadily declined since the beginning of 1926 show at present a tendency to increase, due to unfavorable selling conditions and the stagnation on the Polish petroleum market. Stocks of crude oil on hand during the month of September amounted to 43,630 metric tons as compared with 25,970 in August, an increase of 17,720 tons.

The price of crude oil of the Boryslaw brand amounted at the end of September to $220 per tank car of 10 metric tons.

According to preliminary statistics the total amount of crude oil used by refineries in Poland in September was 47,305 tons, or 16,137 tons less than in August, 1927, and 25,226 tons less than in the corresponding period of 1926. This important decrease is said to be due to unfavorable transportation conditions and to the fact that refineries are withholding their purchases of raw material expecting a decline of prices of crude oil.

Exports of petroleum products in September showed again a decline and amounted to 19,736 tons, or 2,127 tons less than in August. It is noted that exports of lubricants and paraffin increased considerably, especially to Danzig. On the other hand, exports of refined oil declined from 6,377 tons in August to 3,176 tons in September.

Rumanian Conditions

The general status of the Rumanian petroleum industry, as regards production, exports and prices at the beginning of December, may be summarized as follows:

Crude Production (Metric Tons)

	1924	1925	1926	1927
October	167,010	236,172	301,435	327,440
January 1 to October 31	1,514,592	1,909,574	2,689,946	3,027,465

Crude Prices

On December 1, Moreni crude (nonparaffineous) was quoted at Lei 15,900 per car load, of 10 metric tons (paraffineous) at Lei 13,000, and Baicoi crude at Lei 18,400; with exchange at Lei 161.50 to the dollar.

Exports

	Metric Tons			
	Oct., 1926	Oct., 1927	Jan. 1-Oct. 31— 1926	1927
Gasoline	45,303	55,036	340,753	479,511
Refined oil	66,673	62,748	421,939	606,330
Lubricating oil	4,414	5,680	31,349	44,021
Residues (gas and fuel oils)	42,280	73,719	406,409	537,979
Crude oil	.....	.....	3	1
Total	158,670	197,183	1,200,453	1,678,972

Russian Exports Decline

All official Russian figures agree that exports of oil products in October registered decreases. The figure given is 178,342 metric tons. The greatest decrease is in gasoline and fuel oil. According to the "Pravda" the present Russian exports cover 10 per cent of European requirements, "but we are in a position to double this figure in the next five years." Oil represents over 30 per cent of the value of all Russian exports and hence is the largest single source of foreign credits or capital to Russian industry.

It is stated that the Naphtha Syndicate last year (ending October, 1927), has distributed by means of its own organization abroad more than 300,000 tons of oil products, which represents 16.5 per cent of all its sales. The remaining 83.5 per cent were sold to wholesalers on f.o.b. terms. In order to strengthen the Soviet position on foreign oil markets, it is advocated that f.o.b. sales be decreased by increasing and extending the Naphtha Syndicate's organizations. As soon as the syndicate is able to handle more than half of its sales on its own account, present wholesale buyers will be rationed and then gradually all supplies to them will be curtailed.

A prominent Russian oil authority points out the financial difficulties of the Russian oil industry. "The available resources, as regards refineries and transport are insufficient for production and export. Under such conditions every delay threatens output and therefore it is vital to take every possible step to remove the financial difficulties already experienced by Azneft."

It is understood that even Germany has refused long term credits to the Russian oil syndicate on possible purchases of oil field equipment. Unless a tremendously large amount of machinery and equipment for the oil fields is available within the next few months, Russian production may be expected to show serious declines.

French Import Regime

The date of January 1, 1928, fixed by Article 22 of the law of March 31, 1927, as the time within which was to be set up the new regime for importing crude petroleum, its derivatives and residues, has now been postponed to April 1, 1928, according to Article 102 of the 1928 finance law promulgated in the Journal Officiel of December 28, 1927. This latter finance law was adopted by French Parliament on December 25, 1927.

Germany's Synthetic Oil

General Consul Brueckmann of Erdoel & Kohlenverwertungs A. G. (Evag) of Berlin stated before the German Society of International Economics meeting in Berlin on November 2, 1927, that in 10 years this country would produce 2,500,000 tons of oil from coal annually, or enough to cover its then demand, and in five or six years enough to have overhauled progressively increasing consumption. His statement is doubtless overoptimistic; this authority stated publicly on June 17 last that Germany would produce enough oil from coal next year (1928) to cover one-half of its demand, an opinion that the following facts revise.

Germany imports about 1.5 million tons liquid petroleum products now, an amount that will increase progressively in coming years. The 1928 production of oil from coal by the Leunawerke, of the German Dye Trust, is not expected to exceed 100,000 tons. Further production contemplated by Gesellschaft fuer Teerverwertung in a plant under construction at Duisburg-Meiderich will have an eventual capacity of 50,000 tons.

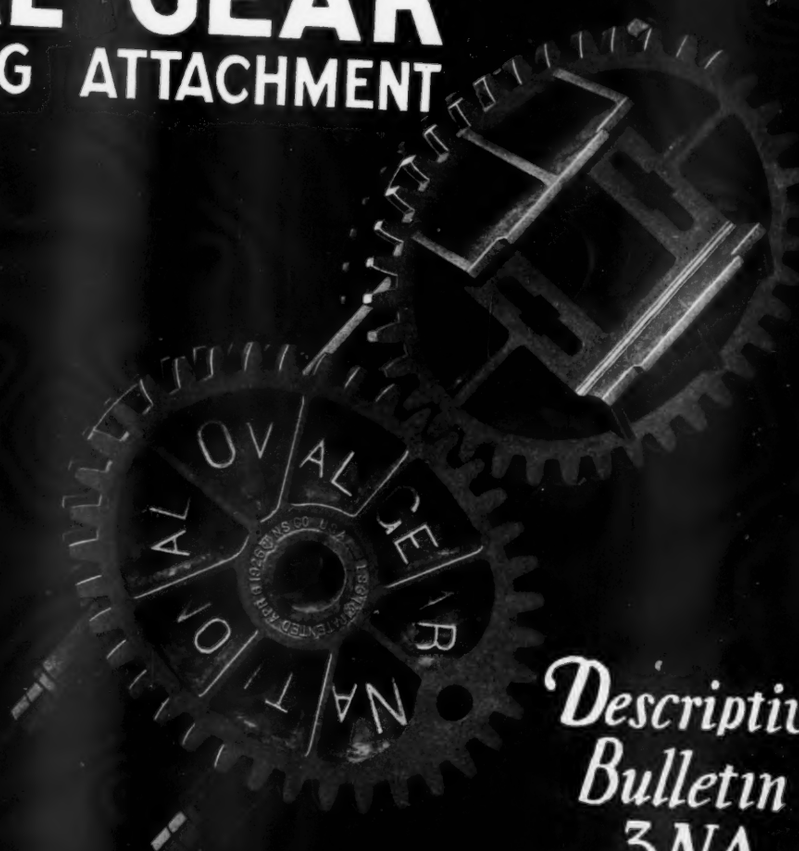
Brueckmann, however, foresees a gigantic expansion of oil from coal production in Germany, other things being equal, in a plurality of plants to be laid down in the next decade.

He alleges a theoretical yield, at least now, of 650 to 700 kilos synthetic petroleum substitute fractions from 1,000 kilos of coal, against lesser yields previously. He ascribes this improvement in output to latest technical perfection of the oil from coal process.

With startling overoptimism he continued that with a loss of 120 kilos volatile substance and 250 kilos residues, or an absolute yield of 65 per cent oils, costs of production compute to 71 marks per ton oil from coal, against a market price of 141 marks, or a theoretical profit of 70 marks. Even if the absolute profit is only 50 marks, he continued, a 50,000 ton plant as that proposed at Duisburg Meiderich would yield a 2.5 million-mark profit, or a 200,000-ton plant, such as the Leunawerke, a 10,000,000-mark profit. Brueckmann points out that he utters only his own personal opinion, and that he is not speaking in behalf of interests involved.

NATIONAL

OVAL GEAR
PUMPING ATTACHMENT



Descriptive Bulletin 3NA on Request

THE NATIONAL SUPPLY COMPANIES

MEN KNOWN IN OILDOM

Hoyt S. Gale

Hoyt S. Gale, president of the Pacific Eastern Production Company, a California subsidiary of the Gulf Oil Corporation, is a graduate of Harvard University, having received his A. B. degree in 1900 and his B. S. degree in geology two years later. He was a member of the United States Geological Survey for 17 years subsequently occupying the position of chief geologist for the South American Gulf Oil Company, subsidiary of the Gulf Oil Corporation, for two years. Succeeding this engagement, Mr. Gale removed to Los Angeles and opened an office as a consulting geologist devoting his entire time to oil work.

Mr. Gale is best known for his work in the economic geology of petroleum in the western part of the United States and in South and Central America and for his study of phosphate, potash, salt, borax, natural soda, nitrates, magnesite and other minerals. Mr. Gale is regarded as the first geologist to appreciate the possibility of getting commercial oil production out in the central part of the San Joaquin Basin and this pioneering will undoubtedly prove of paramount importance in the future production of California, as the entire floor of the valley has been thrown open for work.

PERSONAL PARAGRAPHS

S. H. Keoughan, president of the Continental Oil Company, is speedily recovering from a recent illness.

* * *

R. S. Ellison, vice president and general manager for the Midwest Refining Company, has returned from Colorado Springs, and Denver, Colo.

* * *

C. E. Shoenfelt, of Denver, Colo., chief of scouts for the Marland Oil Company of Colorado, has left for Billings, Great Falls, and Shelby, Mont.

* * *

Burt S. Shafer, of the Wheeling Steel Corporation, with offices in Dallas, Tex., was in Tulsa and other Mid-Continent points during the past week.

* * *

W. R. Finney, superintendent of the gas and electric department, and W. H. Young of the gas plant, Midwest Refining Company, has left for California.

* * *

Ralph W. Carroll, one of the pioneers in the oil well supply business, is located in Galveston, Tex., where he and his daughter are making their home.

* * *

Philip G. Colin has resigned from the Rockefeller Institute for Medical Research to accept a position with the Tide Water Oil Company at Bayonne, N. J.

Charles Perryman, in charge of sales for the American Cable Company, has left for New York after making a trip through the Mid-Continent oil field.

* * *

C. M. Gambrill, formerly with the Matheson Alkali Works, Inc., Niagara Falls, N. Y., has accepted a position with the Ethyl Gasoline Corporation, Yonkers, N. Y.

* * *

John E. Connolly, Freeport, Pa., connected with the Tuscarora Pipe Line Company, and one of the oldest in years of service, was a visitor in Pittsburgh, Pa., recently.

* * *

Mr. and Mrs. Arie Van Weelden have been spending several months in Holland. Mr. Van Weelden is geophysicist for the Roxana Petroleum Corporation at Dallas, Tex.

* * *

G. H. Jaques, assistant general production superintendent for Midwest Refining Company, has returned from a trip through the Grass Creek, Oregon Basin and Elk Basin Fields.

* * *

William W. Pollock, treasurer of the Mammoth Oil Company for the past four years, and Mrs. Pollock have left Casper, Wyo., for Tulsa, where they will make their future home.

* * *

Teynahm Woodward, chemical engineer for the Associated Oil Company in California, has resigned to accept a position with the Burnham Chemical Company, at Westend, Calif.

* * *

E. C. Williams, professor of chemical engineering in University College, London, England, has been appointed to establish a research organization in California for the Shell interests.

* * *

R. P. Lithgow, of the Ford-Beacon & Davis Company of New York, was among those attending the meeting of the Southwestern Shippers Advisory Board in Shreveport, La., February 9-11.

* * *

A. W. Peake, superintendent of operations for the Midwest Refining Company, has returned to Casper, Wyo., after having spent some time at the company's general offices in Denver, Colo.

* * *

G. L. Young, general superintendent of the Signal Gasoline Company, Los Angeles, Calif., is inspecting the company's Mid-Continent plants. Mr. Young is making his headquarters at the Tulsa offices of the company.

* * *

Frank H. Lyons, who for the past year and a half has been chemical engineer for the Drag Oil Company of Toledo, Ohio, has resigned to become research chemist for the E. L. Bruce Company of Memphis, Tenn.

* * *

John I. Moore, geologist, who resigned as geologist for the Roxana Petroleum Corporation in the San Angelo district, will have charge of an office to be opened in San Angelo by the Fuhrman Petroleum Company of Dallas.

* * *

Jacques Vinmont, president of the California Corporation, has returned to Los Angeles following conclusion of the preliminary agreement which contemplates the consolidation of his company with The Texas Corporation.

* * *

Walter E. Hart, formerly vice president of the Merchants National Bank and at one time assistant treasurer of the Equitable Trust Company of New York, became cashier of the Richfield Oil Company during the latter part of January.

* * *

Dr. W. T. Thom, Jr., instructor in the department of geology, Princeton University, was in Casper, Wyo., in connection with some special work on Teapot Dome for the Naval Department in Washington. Doctor Thom was formerly connected with the United States Geological Survey.

* * *

Tom P. Williams, former head of the land department of the Roxana Petroleum Corporation in West Texas and southeastern New Mexico, has been promoted and transferred to Dallas. His new work in the land department will be in both the Coleman and San Angelo divisions. He has been succeeded by W. C. Davis, who until recently had charge of the Roxana land department in North Texas, with headquarters in Wichita Falls.

James W. Furness, of Jenkinstown, Pa., has been appointed chief of the Minerals Division of the Bureau of Foreign and Domestic Commerce succeeding Marshall W. Tuthill resigned. For the past five years Mr. Furness has been employed in the Bureau of Mines as a mining engineer.

* * *

Anson Henry Russell, old-time operator of Cleveland, Ohio, spent a short time shaking hands with his many friends in Toledo, Ohio. Mr. Russell is developing an oil pool as well as gas, in the Second Berea sand pay, near Birmingham, in Guernsey County, in the Central Ohio Field.

* * *

J. C. McMahon, of the land department of the Petroleum Exploration Company, has been transferred from the Saginaw, Michigan, Field, to the Owensboro district in Ohio, Hancock, McLean, Daviess and adjoining counties in the western division of Kentucky. G. W. Francis, of the same company, is also in that part of Kentucky.

* * *

J. S. Sidwell, assistant land man for the Prairie Oil & Gas Company at the Tulsa office and F. W. Dumraese, assistant land man for the company at its Eastland, Tex., office, are in Amarillo, Tex., looking over the oil situation in the Panhandle district. From Amarillo they will go to Wichita Falls and thence over the West Texas fields.

* * *

J. R. Bahan, for long with the gas department of The Texas Company in North Louisiana, East Texas and Arkansas, and later associated with gas interests in an executive capacity and now an independent operator, has been made representative in this territory of Ralph E. Davis of New York, research engineer and appraiser in oil and gas activities, with offices at Shreveport, La.

* * *

The Mine Safety Appliance Company, Pittsburgh, Pa., announces the appointment of J. C. Calnon, El Paso, Tex., as representative for western Texas and northern Mexico; Charles R. Dever, Nanticoke, Pa., as an additional representative for eastern Pennsylvania; and the appointment of C. E. Noonan, as additional representative in western Pennsylvania with headquarters at Pittsburgh, Pa.

* * *

Walter D. Cline, independent oil operator of Wichita Falls, Tex., was the guest of Tulsa Rotarians on Friday of last week. Several hundred Rotarians in Oklahoma and adjoining states attended a banquet in Mr. Cline's honor Friday night at Tulsa. Mr. Cline was elected first vice president of the Rotary International at the convention held at Ostend, Belgium, in June, 1927.

* * *

E. F. Goggins, of the Dunn Manufacturing Company, Oxnard, Calif., has left to accompany A. V. (Ace) Bland on a tour of the Gulf Coast and Arkansas Fields. Mr. Goggins plans to drive overland to meet Mr. Bland, who recently joined the Dunn organization as Gulf Coast representative. Mr. Goggins will be away from the California territory for some months, and will cover Mr. Bland's new territory with him.

* * *

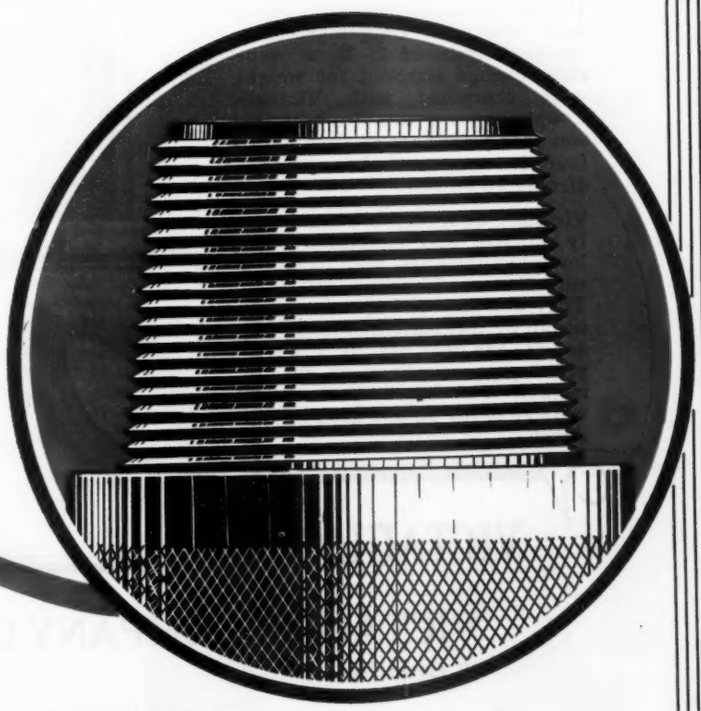
N. Ord Watson, general superintendent of the Shell company's interests in Venezuela (Caribbean and V. O. C.), is making his first trip to England. He did considerable work for the Mexican Eagle Oil Company before the war, and was in charge of the company's program during 1920 to 1923. In 1924, he went to Venezuela as field manager for the Lago Petroleum Company. He returned to the service of the Shell group at the beginning of 1926, as general superintendent of the Caribbean and V. O. C. companies.

* * *

H. C. O. Clarke, of the Pure Oil Company, recently returned from Venezuela, has been relieved of the responsibility of the Pure's production engineering department to devote his attention to Venezuela. When Mr. Clarke is in the United States, however, he will be directly connected with the producing engineering department, which he organized. R. H. Carr, in addition to his present duties as manager of the gasoline division and gas department of the Pure Oil Company, will assume charge of the production engineering department. A. E. Harnsberger, who has been assistant to Mr. Carr in the gasoline division, will take his place as a member of the board of refinery control.

Longer Life

THE HUGHES TOOL JOINT



"Sold By Supply Stores Everywhere"

HUGHES TOOL COMPANY

Service Plants	*Main Office and Plant*	*Export Office*
Los Angeles, Calif.	HOUSTON	Woolworth Bldg.
Oklahoma City, Okla.	TEXAS	New York City

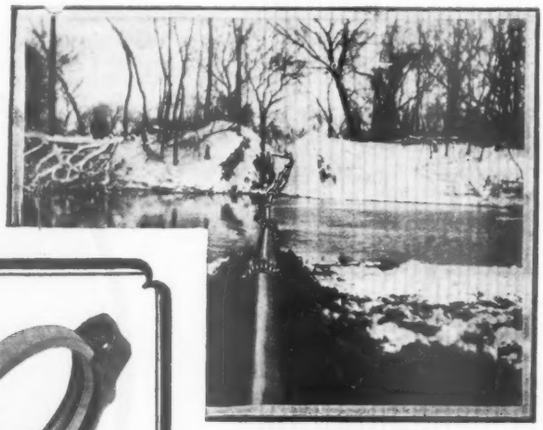
River Crossing 1776 and 1928

February 22nd will celebrate again the birthday of George Washington.

Rivers have many times presented both obstacles and aids to the progress of mankind. The Delaware impeded the advance of Washington, but the Mississippi carried La Salle to the ultimate discovery of Chicago and the great western United States of America.

Help or hindrance, rivers are always somewhere to be bridged or forded—dammed or dredged.

In the oil country—in Churchill Pool at Oxford, Kansas, a river had to be crossed with a pipe line. It was accomplished successfully with Victaulic Couplings. The twelve lengths of 25 lb. 8″ pipe, river clamps attached for weight, were connected with Victaulic Couplings, and this 7-ton weight was then pulled across the river by four horses—no leaks were discovered on test.



Victaulic Couplings are equally suitable and efficient for low pressure lines, high pressure lines and vacuum lines. They are easy and speedy to install by inexperienced labor, and are the only flexible leakproof pipe couplings on the market. This is a decided advantage to the oil and gas producer.

VICTAULIC COUPLINGS

VICTAULIC COMPANY OF AMERICA

26 Broadway New York, N. Y.

Western Distributors:

SMITH SEPARATOR COMPANY

Tulsa Okla

TEXAS OFFICES:
924 Post Dispatch Bldg.
Houston, Texas
1402 Fort Worth Natl. Bank Bldg.
Fort Worth, Texas

CALIFORNIA OFFICE:
2039 East 38th St.
Los Angeles, Calif.

LOUISIANA OFFICE:
405 Forest Ave.
Shreveport, La.

Today, there is a Fisher Type of valve, regulator or automatic control of gas, oil and steam for every conceivable need in the Oil Industry, thus relieving man power and saving money.

If the equipment illustrated in the catalogue does not meet your requirements to the fullest extent, Fisher Engineers will gladly redesign to satisfactorily solve your problem.

There were "Valley Forge" days in the oil industry.....

Days of privation—days without—without tools—without scientific equipment, sometimes without hope—and in those days without the aid of

FISHER AUTOMATIC SPECIALTIES

The Fisher Governor Company

Marshalltown, Iowa

Distributed by

SMITH SEPARATOR COMPANY

Tulsa *Okla.*

2039 East 38th St. Los Angeles, California

924 Post Dispatch Bldg. Houston, Texas

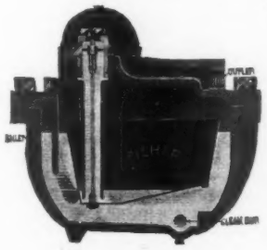
1402 Fort Worth Natl. Bank Bldg. Fort Worth, Texas

DIVIDEND PAYERS

The Fisher Governor Company has provided a type of automatic control for nearly every need that has made itself evident in the producing, refining and pipe-line branches of the oil industry. Many types that were especially made at first are now standard. A recent specialty has been added for the refinery treating department in the Fisher Fluid Mixer (for the intimate mixing of fluids). A Cyclonic Mixer, Type 601, is shown below. This mixer is especially designed for mixing oil with the acid or alkali.

Every piece of equipment illustrated on this page can be used by you in a profitable manner, and we would welcome the opportunity of proving this statement.

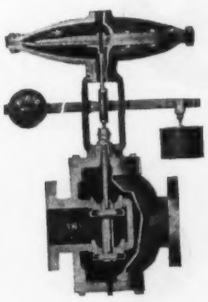
TYPE 227-A LIQUID LEVEL CONTROLLER



TYPE 33 STEAM TRAP

TYPE 601 FLUID MIXER

TYPE 88 VACUUM REGULATOR



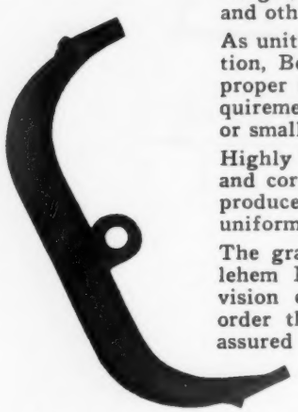
FORGINGS *for the* OIL FIELDS

THE illustrations show seven of the thousands of forgings made in Bethlehem's forge shops. Bethlehem's extensive forging facilities—hydraulic presses, steam hammers, upsetters and drop forge hammers—are available for the production in any quantity of valve and machine forgings, flanges, extruded sleeves, cylindrical parts, and other forgings used by the Oil Industry.

As units of a large steel-producing organization, Bethlehem forge shops can obtain the proper steel to satisfactorily fulfil the requirements of every order, whether for large or small quantities.

Highly developed manufacturing processes and correct die design enable Bethlehem to produce forgings of maximum strength and uniform structure.

The gratifying results obtained with Bethlehem Forgings justify the careful supervision over every step of manufacture in order that uniformly high quality may be assured the ultimate user.



Master Connecting Rod. One of the 28 parts made of Bethlehem Alloy Steel Drop Forgings still in use in the Wright Engine of Colonel Charles A. Lindbergh's "Spirit of St. Louis."

GOLD MEDAL AWARDS received by Bethlehem at the Sesqui-Centennial Exposition, Philadelphia, in recognition of the high quality of Bethlehem Alloy Steels and Drop Forgings, are further evidence of the excellence of these products.

BETHLEHEM STEEL COMPANY

General Offices: BETHLEHEM, PA.

District Offices:

New York Boston Philadelphia Baltimore Washington Atlanta Pittsburgh Buffalo Cleveland Cincinnati Detroit Chicago St. Louis San Francisco Los Angeles Seattle Portland

Bethlehem Steel Export Corporation, 25 Broadway, New York City,
Sole Exporter of our Commercial Products

BETHLEHEM

CALIFORNIA FIELDS

(Continued from Page 56)

sustain the excessive number of wells already under way. Geologists familiar with conditions at Rincon are of the opinion it is almost impossible to secure clean production in the present shallow State zone. A similar zone in the Ventura Avenue Field also presented a difficult water problem and this horizon was subsequently passed up due to the inability to eliminate water trouble. The same condition probably exists at Rincon and while this might later result in the drilling of a deep test in search of another horizon there is a tendency on the part of operators to go slow along this line as this might result in a further excessive production of crude oil and natural gas. The completion of several deep zone wells at Rincon would probably force operators to blow this gas off into the air due to the lack of marketing facilities. The possibility of a deep well getting loose may also hold back work as a severe penalty would undoubtedly be inflicted if this crude should contaminate the ocean waters at this point. Developments during the past several weeks indicate very clearly that the only possibility of securing profitable production at Rincon lies in the development of a new and deeper horizon.

Shallow Zone Unsatisfactory

The unsatisfactory condition of the present shallow State zone at Rincon has slowed up drilling operations considerably and operators will undoubtedly mark time pending a definite decision as to the policy in developing this horizon. A Superior Court decision handed down a few days ago is regarded by oil company executives as a distinct victory for holders of tideland drilling permits who have been prevented from undertaking actual work up to the present. The decision dissolved a temporary injunction restraining the General Petroleum from proceeding with development work on a tideland permit. The action, instituted by the Hobson, Hoffman and Baillard interests, sought to stop future work on tidelands which adjoin the holdings of these littoral land owners. The General Petroleum's next move will center on a legal contest to force a right of way into the tideland properties so that material and equipment can be moved in for future work. Federal Courts several weeks ago dismissed demurrers of defendants to the General Petroleum's suit to gain a right of way to its beach permits and the original suit will now proceed. Litigation, however, will probably prevent any tideland work by the General Petroleum in the immediate future, although the recent Superior Court decision should expedite matters considerably.

Ventura Avenue

For the third time in less than six weeks operators in the Ventura Avenue Field have established a new world's record for deep drilling. The Shell initiated this competitive drilling by bringing in No. 18 Edison flowing 3,750 bbls. of clean 30.2 gravity oil daily from 7,015 feet early in January. The Shell held this record for about three weeks when it passed to the Associated as a result of the completion of No. 1 Dabney-Lloyd which was brought in flowing 425 bbls. of oil and 500,000 feet of wet gas daily from 7,032 feet. The Shell has again come into possession of this deep-sand drilling record by finishing No. 19 Edison a few days ago. This new record breaker registered an initial daily production of 990 bbls. of 30.1 gravity oil and 750,000 feet of saturated gas daily from an even 7,100 feet. These 7,000-foot wells at Ventura Avenue have only been exceeded on one occasion and while they may not be the deepest oil producers ever completed they are the largest deep-zone wells ever brought in. E. J. Miley's No. 6 Athens in the Rosecrans Field technically holds the world's record for deep production but this 7,591-foot producer is not comparable in any way to the prolific wells chalked up at Ventura Avenue.

Drilling operations indicate the probable completion of about 20 wells at Ventura Avenue within 60 days unless the present scope of work is reduced in the meantime. It is needless to say that the daily production of this field will reflect the completion of these new porjects in a very substantial manner and it is possible therefore that development work may be curtailed especially if Long Beach starts on its anticipated upward swing during the early part of March. The Shell is scheduled to finish the largest number of new wells in this field as all of the six drilling projects under way on the Edison and Gosnell properties are below the 5,250-foot level at the present time. The company is running four additional strings of tools on the Taylor lease but these would not normally come into production until the latter part of April. The Associated will probably complete four new wells at Ventura Avenue within 60 days if development work continues unabated and the Petroleum Securities should finish No. 3 Willett and Nos. 1 and 4 on the Orton property about the same time. The M. K. & T. Oil Co. recently installed rotary equipment in its No. 1 Foster adjoining the Orton lease of the Petroleum Securities in the extreme southern part of the Ventura Avenue Field and the bit was down 860 feet a few days ago. The Foster lease being developed by the M. K. & T. interests is generally considered as edge property but this, of course, will not be definitely determined until the present work has been concluded.

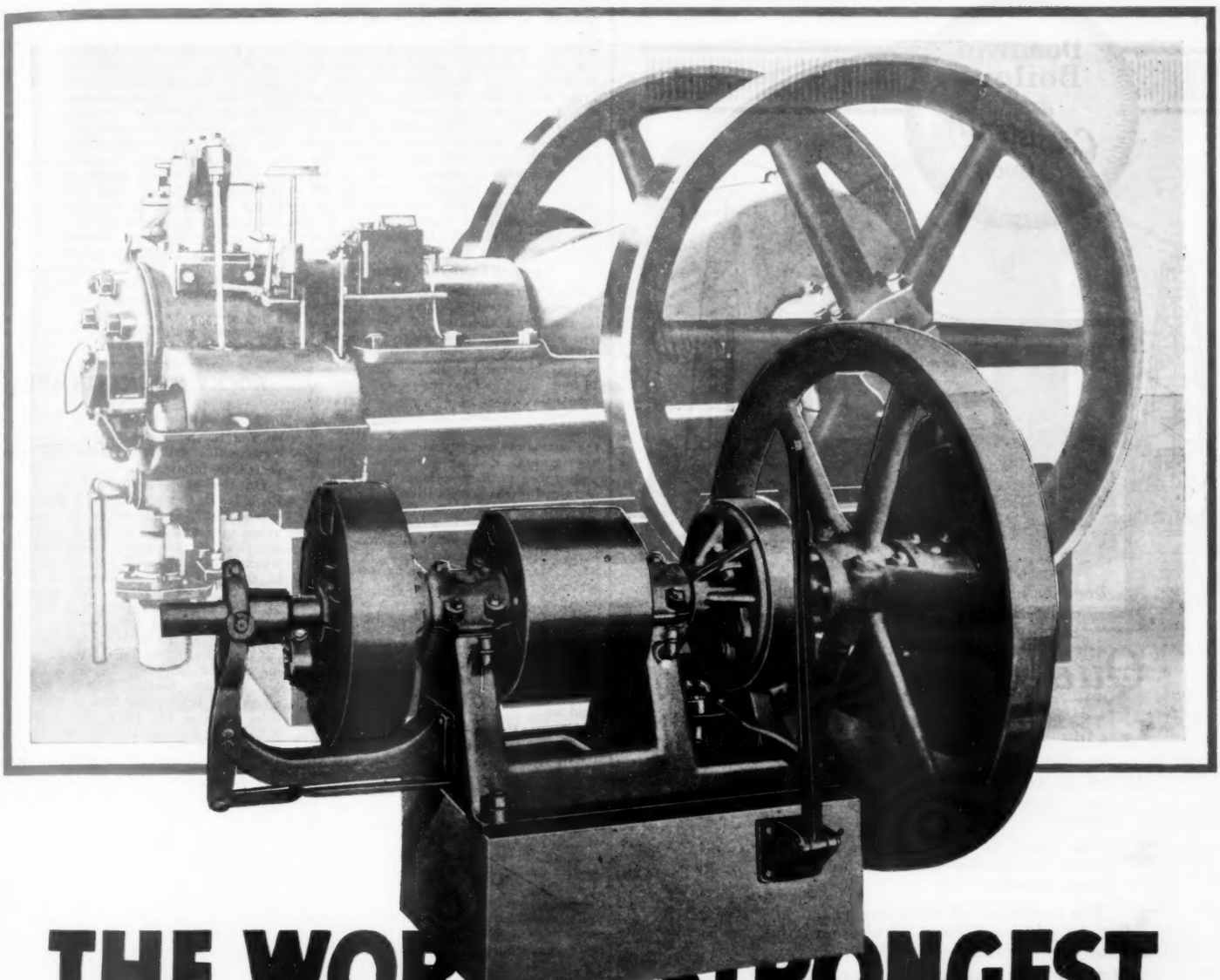
Kern River

Two new wells were chalked up out along the West Front of the Kern River Field during the week. The California Petroleum brought in No. 4 Lehman in Section 23-28-27 and this new well registered an initial pumping of 240 bbls. of 15.6 gravity oil daily from 1,964 feet, the hole having been finished with an 8¼-inch oil string carrying 225 feet of perforated. No. 5 Lehman picked up the top of the pay at 1,700 feet a few days ago and this well will probably come into production within 10 days. The St. Helens Petroleum added another pumper to its list of producers in this area when No. 10 in Section 26-28-27 was put on the beam at 2,210 feet. Drilling operations in this field seem to have slowed down somewhat and although additional completions can be anticipated future development will undoubtedly be a little slower

The Associated has already reduced its drilling operations and other concerns will probably follow suit within 30 days. The Birch Oil Co. recently abandoned a wildcat in Tulare County and the rotary equipment and material from this project has just been moved into the Midway-Sunset Field of Kern County where the company is rigging up an offset to the Signal Gasoline Corp.'s recent completion in Section 8-11-23. The R. & G. Oil Co. finished its No. 7 in the Cat Canyon area of the Santa Maria Field in Santa Barbara County a few days ago and it is making 350 bbls. of 15.1 gravity oil daily from the 3,330-foot level. The R. & G. interests have experienced satisfactory success with the Loomis gas lift and this well, like several preceding completions, was finished with this equipment. The Standard listed a new completion in the Coalinga Field early in the week when No. 8 in Section 5-21-15 was put on the beam at 2,872 feet, from which depth it showed an initial of 100 bbls. per day.

Round Mountain

The Honolulu Consolidated is stepping right along with its development program covering the properties acquired a short time ago from the Elbe Oil Co. This company recently spudded in three new wells and at present has four drillers in Section 18-28-29 and two in Section 20-28-29. The Shell, on the other hand, is still engaged in exploratory work in this field, although the company recently finished No. 1 Jewett in Section 29-28-29 as a 120-bbl. pumper from 1,390 feet. The Round Mountain Field yields a heavy oil averaging around 16.5 degrees and while present development is considerably in excess of the amount undertaken heretofore it is logical to anticipate decreased drilling within several months as this oil is of no importance from a refining standpoint. Practically no drilling of any consequence is being done in the



THE WORLD'S STRONGEST PUMPING ENGINE CLUTCH

The clutch of the Clark Pumping Engine was patterned after the remarkable clutch of the Clark Drilling Engine—and is the strongest, most efficient, and most costly ever placed on a pumping engine.

Note the powerful double pedestal bearing which carries the belt pulley. This absolutely eliminates danger of side pull on the engine crankshaft which so often causes a broken clutch or crankshaft. Belt pulley and clutches are carried on a hollow shaft, within which the clutch shaft is full floating.

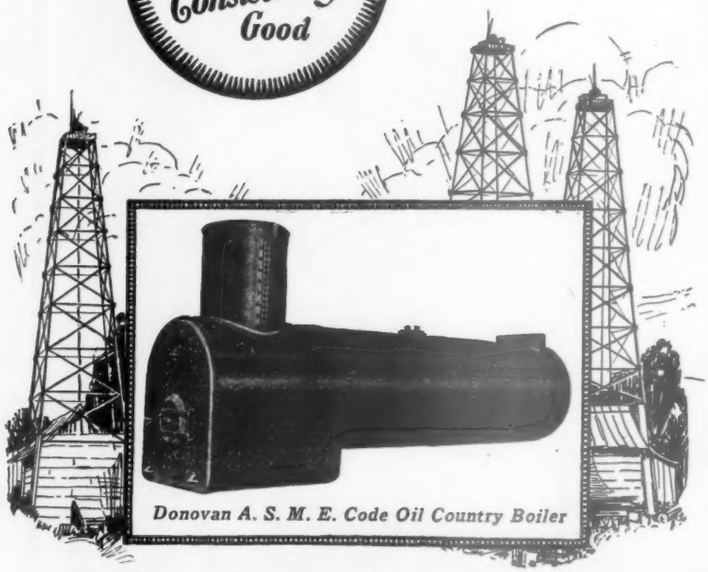
This sturdy 40 H.P. Pumping Engine offers many other advantages, including completely enclosed working parts, Bored Main Bearings Babbitt lined, automatic lubrication of both engine and clutch. We invite your inquiries.

CLARK BROS. COMPANY
Olean, N. Y.
Branch and Warehouse: 125 W. First St., Tulsa
Warehouses at McCamey and Sweetwater, Texas, and Artesia, N. M.
SMITH BOOTH USHER COMPANY
228 S. Central Av., Los Angeles 50 Fremont St., San Francisco

Clark Bros. Co. Olean, N.Y.

CLARK

Donovan Boilers are Consistently Good



Donovan A. S. M. E. Code Oil Country Boiler

Quality Is There!

1. The firebox tube sheet of every DONOVAN boiler receives special attention and deserves special consideration. The tube sheet is, first of all, amply heavy. The finished tube holes are slightly smaller in diameter than the tubes.
2. The reason is—every tube is a driving fit and must be driven thru the tube sheet with heavy mauls.
3. The result is—all tubes are practically steam tight without rolling. Tubes are then prossered but rolled very lightly.
4. All of this is done for a purpose. It leaves the full thickness of the new tubes in the boiler so that, should bad water cause leakage, the tubes will stand more rolling than those of the average boiler before they have to come out.
5. Every detail of the DONOVAN is designed to result in a superior product—a boiler which will last and deliver the goods.

That is why DONOVANS do.

Manufactured by

DONOVAN BOILER WORKS, INC.

PARKERSBURG, W. VA.

NEW YORK OFFICE—30 Church Street

FRICK-REID SUPPLY COMPANY

Mid-Continent Distributors

GREAT NORTHERN TOOL & SUPPLY CO.

MIDLAND IRON WORKS

Montana Distributors

All Leading Supply Houses Throughout the Eastern Fields Handle

DONOVAN QUALITY PRODUCTS

NONE BETTER

Mount Poso Field but several holes will probably be drilled in the Granite Canyon section during the next several months. The Signal Gasoline Corp. has just about concluded preliminary work for its offset to the Union Oil Co.'s No. 1 Tribe in Section 28-27-28 and drilling should get under way shortly. The Miocene Oil Co. will also probably drill a new well in this area as a rig has been erected in Section 34-27-28. The General Petroleum is rigging up Nos. 7 and 9 on the Glide property in Section 21-27-28 and while lease requirements call for the drilling of these holes at once they will undoubtedly be shut in immediately upon completion.

Northern California Wildcats

The Pacific Eastern Production Co has started the erection of two steel tanks in the Fruitvale area of Kern County where that concern recently finished a wildcat which showed a potentiality of several hundred barrels per day from a 14-foot sand. The discovery well at Fruitvale, which produced a 24.5 gravity oil from 3,850 feet, has indicated the existence of oil in commercial quantities in the immediate vicinity but it is not likely any general drilling campaign will be undertaken until something further is ascertained of the possibilities. The Pacific Eastern undoubtedly has the greater part of the productive acreage in this area although the Superior, California Petroleum, Standard, Associated, Barnsdall, Shell, Marland and George F. Getty have all taken protective acreage. The majority of these leases call for actual work within 90 days after completion of the first producer but there is a possibility that this development work may be delayed as the Pacific Eastern may resume drilling in the discovery well if future production is unsatisfactory or fails to hold up.

In the Union Avenue area, located about 5 miles southeast of Fruitvale, the Pacific Eastern is down 5,515 feet in No. 1 and 2,510 feet in No. 2. The former well, which blew over the crown block on two occasions several weeks ago, is being carried down for a deep conclusive test following the failure to secure commercial production in an upper zone due probably to mechanical trouble. The General Petroleum is still working with its discovery well in the Edison district, 7 miles east of Bakersfield in Kern County, and there is a possibility that drilling may be resumed. The Midway Northern was rotating ahead at 2,605 feet in this section early in the week and while the Superior has not yet spudded in its wildcat in Section 24-29-29, actual drilling will get under way during the coming week. The Shell suspended drilling operations in the Corral Canyon area of Kern County a few days ago due to the unfavorable outlook and an early abandonment is possible. W. W. Stabler, who has drilled one duster in the Comanche Point area southeast of Bakersfield, is completing preparations for another wildcat in Section 23-32-29. The Shell recently acquired several thousand acres in Monterey County and road construction has been started to a location for a new well in Section 32-24-12. The Marland Oil Co. has also started wildcatting activities in Monterey County and rotary equipment is being installed.

Southern California Wildcats

The limited amount of prospecting work under way in southern California will probably not show any great variation in the future due to the fact that the most logical locations have already been pretty well tested out. The Potrero district, which was opened up by the Associated Oil Co. several months ago, will be given another chance within the next few days, as Smith & Carpenter are scheduled to make a production test on the old Julian Petroleum Corp.'s wildcat which these operators took over after that concern quit. A gas trap has been installed and other preparations are being rushed for an early test. The Associated expects to begin making hole in No. 2 Cypress, the second well on this lease, some time during the week. The discovery well, incidentally, is still held up with mechanical trouble at 5,408 feet. No. 1 Connolly of the Petroleum Securities, a little less than a mile northwest of the Associated's No. 1 Cypress, was down 3,750 feet three or four days ago. No. 1 Patterson of the Associated, a wildcat at Pico, about midway between the Santa Fe Springs and Montebello Fields, has taken on a rather doubtful aspect at 5,000 feet, although drilling will continue as long as the mechanical conditions will permit. The Olympic Refining Co. is making exceptionally good footage in its wildcat at Sunset Beach, between the Huntington Beach and Seal Beach Fields. The Shell is still held up with mechanical trouble in its No. 1 Mission, a wildcat in the San Fernando Valley, and while an abandonment will probably be filed on this test, it is understood additional work will be undertaken. The Ohio Oil Co. has just staked location for a new well in the Anaheim area of Orange County and material should be on ground soon.

ROCKY MOUNTAIN AREA

(Continued from Page 55)

be run to the sector to take the oil as considerable drilling in that area is expected to follow.

On the western edge of the Artesia Pool, R. D. Compton's No. 4 Mann, Section 4-18-27, is preparing to shoot the upper sand at 1,975-80 feet, following the shooting of the sand at 2,260-80 feet which caused about 25 bbls. of oil to rise in the hole. Gates, Holman & Rehn's No. 1 Murdock, SW cor. NE, Section 7-21-28, is spudding. Grimm & Ross' No. 1 Daugherty, NE SW, Section 3-17-27, is drilling at 1,775 feet, and Hamilton Oil Co.'s No. 1, Section 15-16-25, is drilling below 1,608 feet. Levers & Carper's No. 5 State, Section 3-18-28, has been placed on production and is making 10 bbls. Pueblo Oil Co.'s No. 1 Gessert, NW NW, Section 1-17-31, has resumed fishing at 3,705 feet after being idle for several days. Snowden & McSweeney's No. 1 Lawrence, NE cor., Section 35-20-29, is a location. No. 1 Pearson, C NE SW, Section 9-16-25, north of the Hamilton Oil Co.'s test, is a location.

Lea County

In Lea County, Cecil Bridges' No. 1 Hughes, C S half Section 27-19-38, is drilling at 1,325 feet in red sand. It had 500 feet of fresh water at 1,240 feet. Midwest Refining Co.'s No. 1 State, NE NE, Section 9-19-38, near Hobbs, is rigging up new derrick to replace the one destroyed. The Maljamar Oil & Gas Co.'s No. 2 Beardsley, SE NE, Section 15-17-32, is drilling at 4,270 feet and apparently has missed the big pay expected at 4,250 feet. A 5-foot stratum of sandy lime topped at 4,253 feet carried a little oil and some gas. The Marland Oil Co.'s No. 1 Eaves, SW cor. SE, Section 19-26-37, commenced spudding February 1 in a 20-inch hole. The Texas Production Co. has not yet announced any new Lea County locations in the vicinity of its Rhoades well and it is now expected that it will be some time before any additional drilling is started in that area.

In Guadalupe County, Hanchett and others' No. 1 Rutherford, Section 24-8-24, is shut down at 4,185 feet.

R. D. Compton, well known operator in the Artesia Pool, was injured the past week when he was struck by a truck which passed over his right leg near the knee. He had parked his car on Main Street in Artesia and started across the street when the truck swerved around his car and hit him. His injuries are not considered serious. G. E. Davis, field superintendent in Eddy County for the Empire Gas & Fuel Co., has been transferred to Wink, Tex. He has been succeeded by D. Bodie. Hy Smith, watchman at the Texas Production Co.'s Rhoades well in Lea County, who was injured two weeks ago when struck on the forehead by a piece of flying metal, died last week in a hospital at Wink, Tex. He was assisting in making connections for a gas line to the Marland well when a gate head was blown off.

San Juan County

In the northwestern part of the State, there is little outside of routine to report. The Huntington Park Oil Co.'s No. 1 Terwilliger, Section 29-30-9, in the

Blanco area, San Juan County, had a small fishing job. The hole is bottomed at 4,272 feet and is still showing a little gas in the 200 feet of open hole. The San Juan Petroleum Co.'s No. 2 Farmington, Section 9-29-13, struck a water sand and stopped drilling at 2,685 feet to run a string of 6⅝-inch casing to make a shutoff. Aztec Development Co.'s No. 1 Finch, SW SE, Section 15-29-11, is being plugged at 945 feet, where it was a small pumper. Rig will be moved to the SE NE, Section 14-29-11, where No. 2 Viles will be drilled. Continental Oil Co.'s No. 17, Santa Fe Corp. lease, Section 2-29-9, Rattlesnake Dome, is drilling at 4,493 feet. Kirkland Drilling Co.'s No. 1, Section 10-29-15, is drilling at 450 feet with slight showings of oil on top of water. Casing will be run to make a shutoff. A. Johnson, trustee's No. 2 Garland, Section 34-29-11, is drilling at 1,560 feet and is close to the horizon in which the Congress-National well showed some gas.

In McKinley County, the Producers & Refiners' No. 2 Hospah, Section 12-17-9, is shut down at 800 feet repairing engine. Continental Oil Co.'s No. 1 Carica, Section 9-17-9, is drilling at 3,140 feet.

Wyoming

The Oregon Basin operation in Park County again took precedence over all other areas during the past week. The wide publicity given the recent discoveries on that structure have resulted in bringing in a number of oil men, lease speculators, and others who flow to the scene of the latest excitement. The result is that there is something of a boom developing and the interest is widespread. The area is so large and broken up into so many ownerships that no one or two companies control the situation and this makes for a more popular operation than otherwise would be possible. The latest development is the discovery of a saturated horizon in the Ohio Oil Co.'s No. 1 Baston, NE cor. NE, Section 6-51-100, on the south dome, 5 miles south of the discovery made last spring in the same company's No. 3 Sonners on the north dome.

Details of the discovery in the Baston well are meager but appear to be as follows: At 3,225 feet, the tools were working close to the cap rock over the Embar sand and it was decided to stop at that point and commence coring. The sand, according to the best reports available, was picked up at 3,420 feet and found to be heavily saturated. Two truck loads of mud were at once dumped into the hole to keep down the pressure until casing can be run and cemented and a change made from rotary to cable tools to drill in. The importance of the strike cannot be determined for some time but it is very significant.

Oregon Basin was known for a long time as a gas field, but a year ago the Ohio Oil Co.'s No. 3 Sonners, NW NE, Section 8-51-100, succeeded in getting through the gas horizons in the Frontier and Dakota and drilled into the Embar-Tensleep series. Its depth was reported at 3,580 feet at which horizon it was in the top of the Tensleep. The well has been shut in, though a pipe line was constructed to the field from a point near Cody by the Illinois Pipe Line Co., and two 80,000-bbl. tanks were constructed at the railhead. On the basis of a 13-minute flow in which time it filled a 250-bbl. tank, the well was estimated capable of making 21,000 bbls. a day. This well is on what is known as the north dome. The new discovery in the No. 1 Baston is on the south dome where conditions were similar, gas wells having been drilled several years ago to the upper horizons. The Baston well is the first to reach the objective Embar on the south dome. This structure is larger even than the north dome as to area. Another well on the south dome is Charles E. Orchard's No. 1 Rue, SW SW, Section 28-51-100, which is reported drilling at 3,465 feet and supposedly close to the top of Embar. Another week probably will give some definite idea as to what may be expected from it.

On the north dome the Cody Petroleum Co.'s No. 1 Klindt, NE SE NE, Section 7-51-100, which topped the Embar three weeks ago at 3,539 feet, was drilled 90 feet into the sand when operations were suspended to make a test. The mud was bailed out and the well flowed 500 bbls. into the tank in 24 hours. However, this does not indicate what the well is expected to do as the Embar is estimated to be 200 feet thick and it is planned to drill through this sand and 10 feet into the Tensleep, if possible. That makes at least 120 feet of additional drilling before the production can be compared with that of the Sonners well.

Other operations on the two domes include the following: Cody Petroleum Co.'s No. 2 Klindt, NE NE, Section 7-51-100, is drilling in the Morrison formation at 2,050 feet. Ferdig-Wyoming Oil Co.'s No. 2 Hough, NW cor. SE, Section 19-51-100, cleaning out at 2,808 feet. Linco Oil Co.'s No 1 Rosseau, SW cor. NE Section 33-51-100, cemented 10-inch at 2,008 feet. Same company's No. 1 Lyle, SE SE, Section 24-51-101, rebuilding rig. Same company's No. 1 Pully, SE SE, Section 13-51-101, standing cemented at 1,010 feet. Ostland Development Co.'s No. 1 Rousch, NW cor., Section 9-51-100, underreaming at 2,078 feet. Same company's No. 1 Shaw, Section 18-51-100, standing at 500 feet. Continental Oil Co.'s No. 1-A State, NW NW, Section 16-51-100, fishing at 1,610 feet. Baston & Darrah's No. 1 Welch, NW NW, Section 10-50-100, drilling at 350 feet. Producers & Refiners' No. 1 Frisby, SW NE, Section 32-52-100, rigging up rotary. Ohio Oil Co's No. 4 Sonners, NW Section 8-51-100, fishing at 3,056 feet. Several other wells show no change of importance.

One completion was reported for the week in Salt Creek, this being the Wyoming Associated Oil Co.'s No. 36, in the SW Section 23-40-79, at 1,180 feet in the first Wall Creek. It has not been tested

Among the wildcats there is little of interest to report. Operations at the Great Northern Oil Co.'s No. 1, Section 5-31-70, on the Irvine Dome, in Converse County, continue to attract considerable attention. This well (also known as the Criterion, or W. H. Patten) is bottomed at 3,650 feet and is supposed to have found some saturation in the Sundance sand after going to water in the Dakota. Efforts to make a water shutoff so as to test the oil showing are said to have been unsuccessful so far and further attempts to cement the hole are being made. There is considerable talk in Douglas of several other tests being drilled on the structure on the belief that it has been proven in the Sundance.

In Fremont County, the Texas Production Co.'s No. 1, Section 1-33-95, Alkali Butte Dome, is pulling casing to rerun at 1,830 feet. Producers & Refiners' No. 1, Section 33-34-92, Muskrat Dome, is drilling in shale at 2,310 feet

Montana

In the Sunburst Field, the Hannah Porter well, on Section 7-34-1, is making a slow head against the water. On a test run last week the well made 58 per cent oil and has a rock pressure of 350 pounds. As soon as the water is pumped out the well is expected to make a large producer.

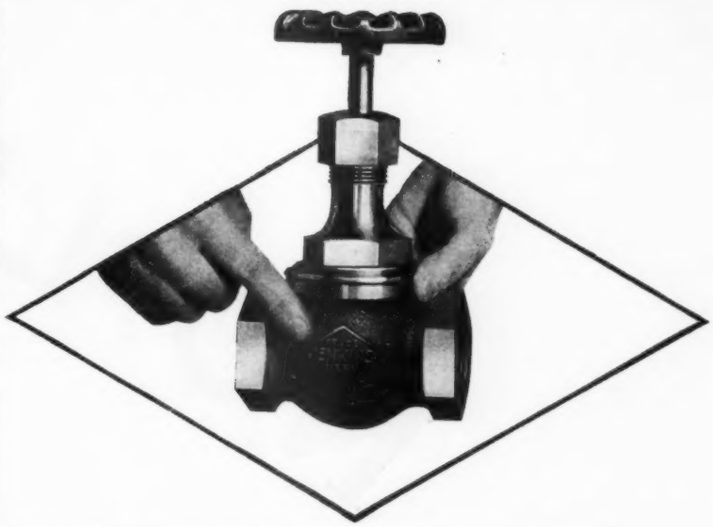
On Section 13-34-2, the Hardrock Oil Co. brought in a producer good for 50 bbls.

The Big West Oil Co. has announced that the firm will drill three wells in the spring in three areas south of the Marias River. One in the Conrad Butte, one in Bannatyne and a third in Pondera. The company has blocks of leases in each of these fields.

The Flat Coulee well in the Sweetgrass Hills is shut down preparing for a test. The well appears good for a commercial producer, but no definite figure can be had yet.

The new board of directors of the Rocky Mountain Oil and Gas Association, Montana Chapter, met in Great Falls last week and completed the draft of a program for the coming year. The prospects for much activity in Montana were considered bright and the different committees were organized and started in on their work for the ensuing year.

E. B. Coolidge was re-elected president



You don't want "gushers" among your valves

Fig. 370 Screwed, Jenkins Standard Bronze Gate Valve

Fig. 325 Screwed, Jenkins Standard Iron Body Gate Valve

Fig. 142 Flanged Jenkins Standard Iron Body Globe Valve

Valves that spring leaks are uncommon where engineers standardize on Jenkins. Tight contact at the seat is provided by Jenkins design, while spindle-leakage is prevented by ample packing and by follower held in position by the packing nut.

The Jenkins "Diamond" tells engineers in the oil industry many things about a valve. It tells them that the valve on which the mark appears is made from the best metals, that the valve has been designed and built for maximum rather than average service—that a wide margin safety test has been passed before the valve left the Jenkins factory.

There are Jenkins Valves in bronze, and in iron, in standard, medium and extra heavy patterns for practically every valve requirement.

When so ordered, Jenkins Valves may be supplied specially packed and specially tested for oil service. They are obtainable through supply houses everywhere.

JENKINS BROS.

80 White Street.....New York, N. Y.
524 Atlantic Avenue.....Boston, Mass.
133 No. Seventh Street.....Philadelphia, Pa.
646 Washington Boulevard.....Chicago, Ill.

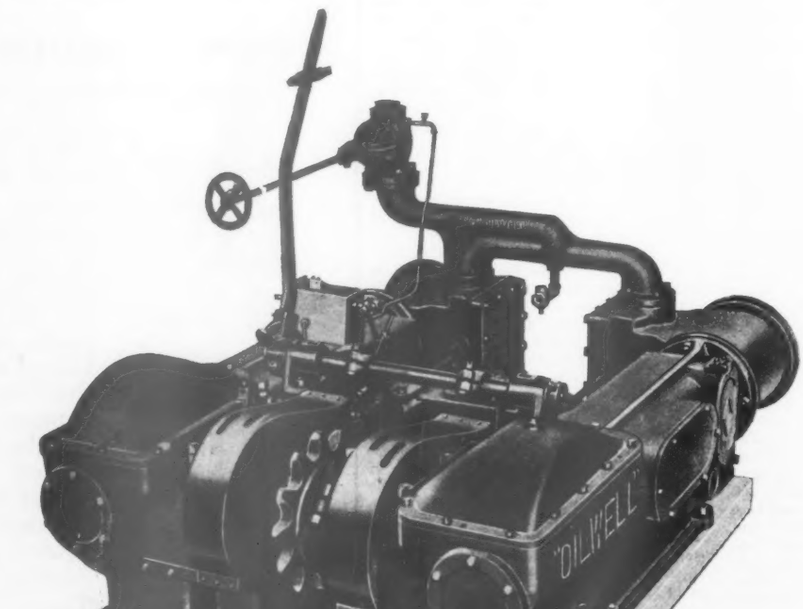
JENKINS BROS., Limited
Montreal, Canada London, England

Always marked with the "Diamond"
Jenkins Valves
SINCE 1864

NO LUBRICAT

With **"OILWELL"** Oil Bath Twin Cylinder Engines positive and constant lubrication is assured, and changes of oil need be made only at long intervals.

Being *enclosed*, no foreign matter can contaminate the oil bath or get into the crank shaft or connecting rod bearings.



11"x11" Enclosed **"OILWELL"** Twin Cylinder Engine.

"OILWEL
ESTD.
TRADE
(REGISTERED)

OIL WELL SU

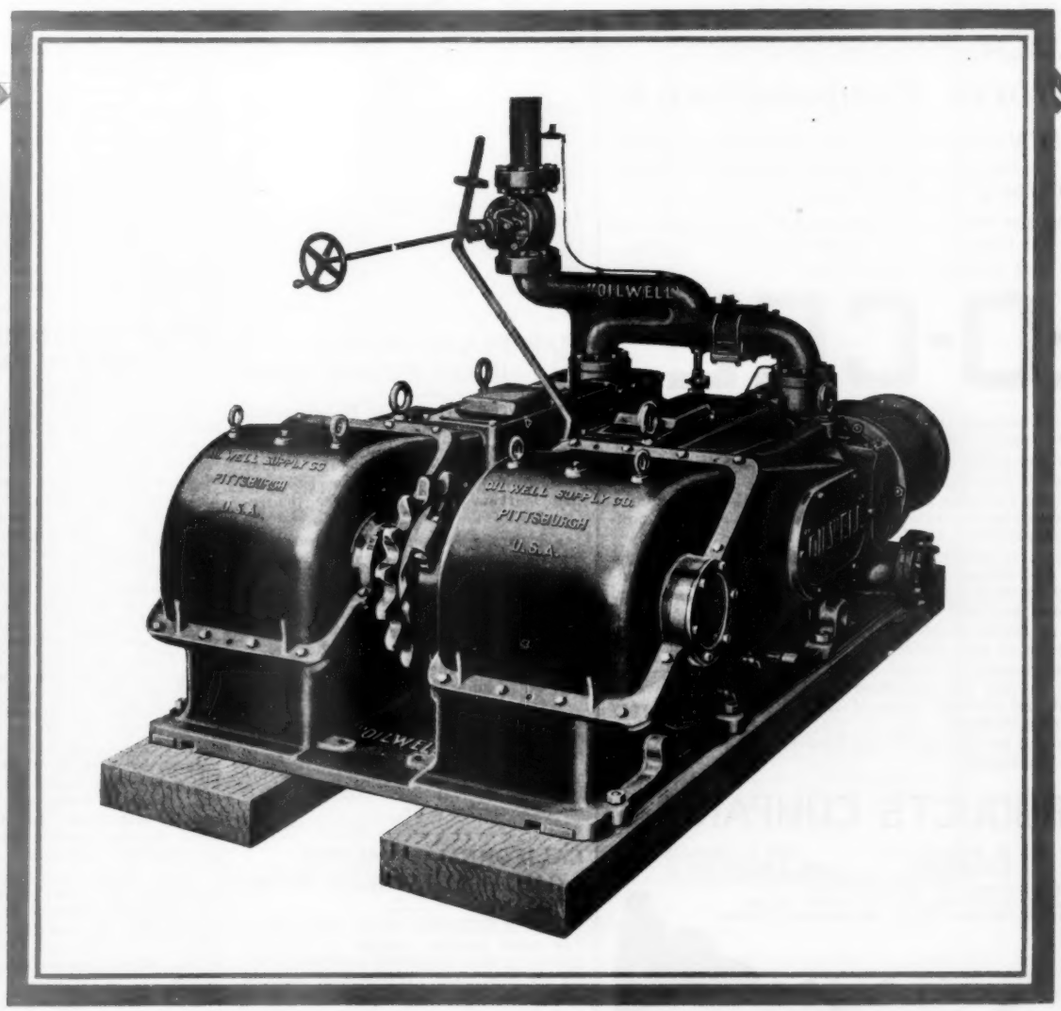
WORLD'S OLDEST AND LARGEST MANUFACTURERS OF OIL FIELD EQU

ATION WORRY

The arrangement of covers for enclosing these engines permits easy inspection of working parts.

Made in two sizes—11" x 11" and 12" x 12".

Special Bulletins describing these engines in detail sent on request, or inquire at any of our 100 Branches.



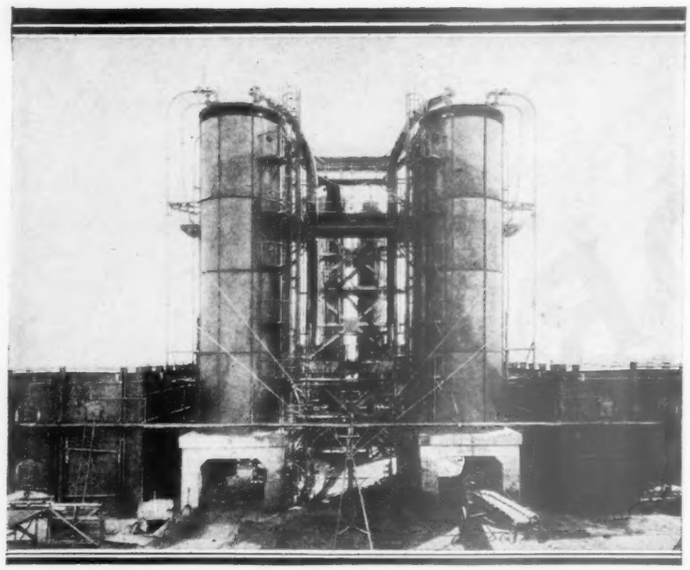
12" x 12" Fully Enclosed "OILWELL" Twin Cylinder Engine. Equipped with Timken Roller Bearings.

"OILWELL"
1862.
MARK.
(REGISTERED)

SUPPLY CO.

IELD EQUIPMENT

BRANCH STORES IN ALL OIL FIELDS



DUBBS INSTALLATION IN THE PARAGON REFINING COMPANY'S PLANT, TOLEDO. COMPLETELY INSULATED WITH SIL-O-CEL.

"Where Uniform Temperature is very necessary"—without good insulation careful regulation is impossible," states Mr. C. W. Luton, General Superintendent of the Paragon Refining Company, Toledo.

"We use Sil-O-Cel around the reaction chambers and dephlegmators in our Dubbs plant. And it plays an important part in our production of antiknock motor fuel (Liquid Lightning)."

SIL-O-CEL

The Universal Oil Products Company makes good use of Sil-O-Cel Insulation to facilitate temperature regulation in Dubbs units.

Dubbs furnaces are usually insulated with a course of Sil-O-Cel Standard Brick between their fire brick lining and the outer course of red brick.

The flues in the bottoms of the furnaces are insulated with Sil-O-Cel coarse powder which serves to protect the concrete from spalling as well as to conserve fuel and stabilize temperatures.

Sil-O-Cel also affords an effective material for protecting and insulating the tube plates, clean-out doors and dampers, known as Sil-O-Cel insulating concrete. This semi-refractory material is made right on the job, of calcined Sil-O-Cel aggregate (C-3) and portland cement.

On the expansion chambers of Dubbs Units, Sil-O-Cel coarse filler is usually applied to a thickness of eight or nine inches.

The advantages of complete insulation with Sil-O-Cel are obvious. One source of supply—delivery in one lot—constant quality—simplified warehousing—and an economical and durable form of insulation to meet every structural and temperature requirement.

Call in a Sil-O-Cel engineer and let him show you how to make the most of every dollar you invest in insulation.

CELITE PRODUCTS COMPANY

11 Broadway NEW YORK — 225 E. Superior St. CHICAGO — 1320 S. Hope St. LOS ANGELES

Offices and Warehouses in Principal Cities
Celite Products Limited, New Birks Bldg., Montreal, Quebec
Celite Products Corporation, Windsor House, Westminster, London

of the Treasure State Pipe Line Co. This company owns the pipe line carrying gas from Sunburst Field to Shelby.

Geologist Charles T. Lupton, discoverer of the Cat Creek Field in Montana, examined a recent survey on the edge of that field by Geologist I. N. Foss and has approved it. It appears that a fault plane across a part of the field may cause a secondary oil pool outside the present area of development. Going on this theory, the Trench Oil Co. has secured land in that part of the area and will drill some tests in the spring.

ROCKY MOUNTAIN PRODUCTION

Runs From the Field	
Wyoming	
Salt Creek	38,700
Big Muddy	2,710
Grass Creek	2,430
Elk Basin	1,020
Greybull	10
Dutton Creek	.....
Rock River	2,560
Lance Creek	630
LaBarge	830
Mule Creek	.....
Poison Spider	180
Hamilton	1,220
Osage	260
Lander	750
Ferris	30
Byron	40
Lost Soldier	2,820
Simpson Ridge	10
Total Wyoming	54,200
Montana	
Cat Creek	1,820
Lake Basin	150
Kevin-Sunburst	8,500
Total Montana	10,470
Colorado	
Florence	1,072
Moffat	1,247
Fort Collins	2,742
Iles Dome	1,526
Rangley	100
Tow Creek	432
Boulder	25
Total Colorado	7,144
New Mexico	
Rattlesnake	519
Hogback	530
Cap Rock	211
Table Mesa	.....
Artesia	1,257
Total New Mexico	2,517
Total Rocky Mountain	74,331

FIRM PRICES PREVAIL IN GULF COAST AREA

HOUSTON, Tex., Feb. 13.—Although maintaining firm prices on virtually all grades of neutral oils, Gulf Coast refiners the past week did only a fair amount of business and Monday the outlook was that markets would mark time the remainder of the month.

February sales so far have been better than usual for February, but the volume of business has slowed up materially from that of January. Much of the material now moving is on orders placed during January. Fewer export inquiries also are being received.

General weakness also continued in fuel oils despite the increasing consumption by industries along the Houston ship channel, which make up most of the industrial demand for Gulf Coast fuels. The fact that North Texas fuels are reported being shipped in here for bunkering is playing a part in holding the local market down.

CALIFORNIA DOMESTIC GASOLINE MARKET WEAK

LOS ANGELES, Calif., Feb. 10.—The retail gasoline market in Southern California has weakened somewhat during the past week. Independent stations selling so-called bootleg gasoline have posted signs in many cases reading six gallons for $1, and with a few advertising at even lower prices. The domestic gasoline market is soft with indications of continuing in this condition during the next few weeks. If the situation becomes worse, many marketers look for a reduction in the posted price of gasoline by the larger companies.

Figures just released by the Bureau of Mines show that during December, natural gasoline consumption decreased 31,392 bbls. under the previous month. Production also decreased during the same period so consumption continued in excess of production at the rate of 2,229 bbls. per day. The stock figure at the end of the month was 599,216 bbls. which is approximately 17 days' supply at the current rate of utilization.

Export gasoline is being quoted at from 6 to 6¼ cents with material quantities moving at these figures. Shipments outside of Pacific Coast territory were greater during December than during any other month in the year, with the single exception of May. The outlook is for continuation of a fair demand for California export gasoline.

The kerosene market is unchanged. Inquiries for kerosene for the Orient continue to hold up well and quotations are unchanged in most cases. The fuel oil market is about the same. Fuel oil has been weak for some time and is being sold by smaller refiners at prices somewhat under those quoted by the major companies.

SOLD UP ON GASOLINE IN NORTH LOUISIANA

SHREVEPORT, La., Feb. 13.—With most refiners sold up to capacity and some of them in the market to fill their orders and all of them moving the product as fast as they can deliver it from their stills, gasoline is getting stronger and the impression prevails that an increase in prices is due before long. At 6¼ to 6½ cents, 58-60 U. S. Motor is in receipt of quite a few more inquiries and there appears to be none of the fuel going to storage in anticipation of the expected advance. The same applies, though in a lesser degree, to kerosene at 4¾ to 5 cents.

Fuel oil is steady at 97½ cents to $1.00 per barrel and gas oil, although showing a seasonal weakening in the northern consuming territory, is holding at 3 to 3¼ cents. Refiners running Smackover oil were benefited by the recent reduction of 10 cents in posted price.

NOTED OIL CHEMIST DIES IN CALIFORNIA

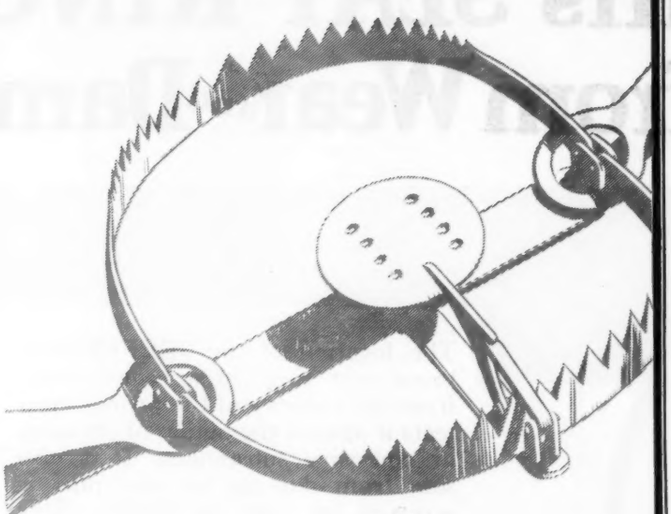
Dr. Chase Palmer, a chemist internationally known among petroleum engineers and geologists for his studies of oil field waters and for his widely used system of interpreting water analyses, died at his home in San Francisco recently. For the past few years he had been engaged in research and consulting work on chemical problems with special reference to oil field waters and their relations to the occurrence and recovery of oil. At the time of his death he was studying the application of water analyses to serious corrosion problems on the Pacific Coast. Probably Doctor Palmer did as much as any other man to advance the study of petroleum hydrology in this country. He gave his personal assistance to practically all of the petroleum engineers and geologists who have done noteworthy work on oil field waters, and has rightly been called the father of modern petroleum hydrology. His chemical genius, enthusiasm, and the joy he derived through helping others were outstanding characteristics.

Doctor Palmer was born at Saco, Me., September 19, 1856; studied at Princeton and John Hopkins and received the degree of A. B. and Ph. D. from Johns Hopkins in 1879 and 1882. He taught at the Massachusetts Institute of Technology, Tufts, Wabash, Central University of Kentucky, and Kentucky State College.

PENNSYLVANIA MARKET

OIL CITY, Pa., Feb. 11.—Gasoline, naphtha and kerosene were moving fair in the Pennsylvania refined district during the past week with no material changes in prices. The weather has been a little more favorable for motoring and actual consumption of motor fuels has shown a slight increase. Wax was scarce and strong. Neutrals are scarce. Fuel oil was strong and in good demand for the reasons outlined in this review last week. Bright stocks and cylinder stocks were sluggish.

Takes hold *with* its teeth



Note the screw-like grip of this plug. It holds where a friction plug would blow out.

The GUIBERSON Spiral Bottom Water Plug will positively hold against the heaviest gas pressures. Its spirals of boiler plate steel expand in diameter when compressed, biting into the walls and taking an unbreakable hold.

Oakum is used for packing. The process of setting compresses the oakum uniformly between the steel spirals, forming a non-porous, water and gas tight seal which will outlast the well. Fully patented.

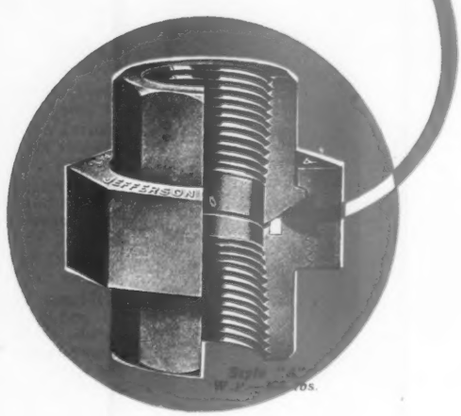
"Better Be Safe Than Sorry"

THE GUIBERSON CORPORATION
Box 1106, Dallas, Texas

CALIFORNIA BRANCH: 1506 Santa Fe Ave., Los Angeles
402 W. First St. TULSA · 321 Osage St. PONCA CITY · 506 Trust Bldg. NEWARK, O.

GUIBERSON
BETTER BE SAFE THAN SORRY

Note How This SEAT RING is PROTECTED from Wear and Damage



The location of the JEFFERSON brass seat ring—in a recess away from the runway of the fitting—protects it against the action of abrasive or corrosive substances. It is also safe from damage in case pipe is screwed far into the fitting. This seat ring is forced into its recess under tremendous pressure and becomes practically one piece with the surrounding metal.

Thus the JEFFERSON Union offers unsurpassed *durability* in addition to *tightness* and *convenience* of a ground ball, brass-to-iron joint.

JEFFERSON Unions are produced by an organization devoted exclusively to the designing and manufacturing unions of the highest possible quality. They are available in all styles and in sizes from ⅛ inch to 12 inches.

JEFFERSON Unions and Flange Unions can be furnished with *IRON TO IRON JOINTS* (as well as brass to iron) at no extra cost, when specified for use in oil fields where a highly corrosive condition exists.

JEFFERSON UNION COMPANY
Lexington, Mass., U. S. A.
Handled by All Leading
Oil Industry Jobbers

JEFFERSON

WILDCAT OPERATIONS IN OKLAHOMA

(Continued from Page 42)

McCray Oil & Gas Co.'s No. 1 Whitney, NE cor. NW SE Sec. 19-24-14w ..... Shut down 1,880 ft.

KAY COUNTY

Boucher and others' No. 1 Cooper, SE cor. SE Sec. 23-27-2w ..... U.R. casing 1,350 ft.
Ponca Lee Oil's No. 1 McNeil, NW cor. NE Sec. 32-26-2e.. Shut down 2,795 ft.
Tonkawa Development Co.'s No. 1 McDaniels, SE cor. SE Sec. 15-25-1w ..... 500,000 ft. gas; 3,980-88 ft.; shu down, 4,475 ft.
Miller & Geyer's No. 1 Albright, NW cor. SE Sec. 10-25-1 ..... Shut down 3,942 ft.
Corley and others' No. 1 Williams, SE cor. NE SW Sec. 7-21-1w ..... Shut down for casing 1,920 ft.

WOODWARD COUNTY

Otstot Development Co.'s No. 1 Simmons, SE cor. SE Sec. 32-24-17w ..... Shut down for pipe 1,490 ft.
Wight & Wahl's No. 1 Unknown, C NW Sec. 16-23-20w... Rig.
Randau & Mooney's No. 1 Parker, SE cor. NE NW Sec. 4-23-16w ..... Shut down 1,092 ft.
Sharon Oil Co.'s No. 1 Elmore, SW cor. SW Sec. 25-21-21w ..... Shut down 2,772 ft.
Burgoyne Brothers' No. 1 Unknown, SW cor. SE NE Sec. 15-21-19w ..... Shut down 490 ft.

GARFIELD COUNTY

E. L. Love and others' No. 1 White, SE cor. NW Sec. 9-24-6w ..... Hole full water 4,650 ft., shut down 4,720 ft.
Failing and others' No. 1 Gorsuch, SE cor. SE Sec. 14-24-3w ..... Drilling 4,000 ft.
Fleming and others' No. 1 Wengert, NW cor. NW Sec. 8-22-5w ..... Shut down 750 ft.
Beopple and others' No. 1 Schweer, C SW NE Sec. 12-21-4w ..... Shut down 1,850 ft.
Marland and Barnsdall's No. 1 Looman, NE SE Sec. 9-20-4w ..... Drilling line 5,724 ft.
Marland Oil Co.'s No. 1 Miller, SW cor. SW Sec. 12-20-4w Shut down 4,586 ft., waiting on test Sec. 9-20-4w.

ELLIS COUNTY

Oklahoma Northern's No. 1 Young, NW cor. NW Sec. 9-21-25w ..... Fishing 235 ft.

NOBLE COUNTY

Barnsdall Oil Co.'s No. 1 Bumberger, NE cor. NW SE Sec. 11-21-1 ..... Cellar.

KINGFISHER COUNTY

Slick & Harrington's No. 1 Cromer, SE cor. NE NE Sec. 25-19-5w ..... Location.
H. H. Morgan's No. 1 Buscon, SW cor. SE NE Sec. 30-16-9w ..... Shut down 1,610 ft.
Petroleum Research Core Drill Corp.'s No. 1 Wolff, NW SE Sec. 6-16-7w ..... Shut down 800 ft., litigation Moved out all but rig.
McKinney & Crawford's No. 1 Sturgeon, NE cor. SW Section 27-16-6w ..... Drilling 3,715 ft.
Wiley & Manahan's No. 1 Johnson, C NW Sec. 26-16-5w... Fishing 4,320 ft.
Reiter-Foster Oil Co.'s No. 1 Unknown, SW cor. SE Sec. 23-15-5w ..... Rig.

LOGAN COUNTY

Champlin Refining Co.'s No. 1 Clark, SE cor. SW Sec. 8-19-4w ..... Drilling 4,754 ft.
Roxana Petroleum Corp.'s No. 1 Freelove, SW cor. SW Sec. 17-19-4w ..... Rigging up standard tools 5,832 ft.
Sinclair Oil & Gas Co.'s No. 1 Webber, SE cor. SE Sec. 18-19-4w ..... Rigging up standard tools 4,808 ft.
Twin State Oil Co.'s No. 1 Shaffer, NW cor. NW Sec. 20-19-4w ..... Drilling 4,311 ft.
Bryan & Emery's No. 1 Scott, C NW SE Sec. 33-19-4w... Dry and abandoned 4,505 ft.
Huckaby & McCoy's No. 1 Perfect, NE cor. NE Sec. 9-18-15w ..... Shut down 3,370 ft.
Haley & Smith's No. 1 Gus, SE cor. SW Sec. 33-18-3w... cleaning out 3,690 ft.
Garber & Pulse's No. 1 Widdoes, NE cor. SE NW Sec. 22-18-3 ..... Shut down 1,200 ft.
T. B. Slick's No. 1 Bryan, SW cor. SE Sec. 28-17-1..... Drilling 5,448 ft.
Willis and others' No. 1 Sweezy, SW cor. NW SE Sec. 20-17-3 ..... Shut down 4,677 ft.
W. R. Ramsey's No. 1 McMillan, NW SW Sec. 24-15-3w... Hole full water 4,507-4,517 ft., shut down for orders.
Bu-Vi-Bar's No. 1 Kirkpatrick, NE SW SW Sec. 12-15-1w. Shut down 4,504 ft.

BLAINE COUNTY

Lowen and others' No. 1 Unknown, NW cor. SW NW Sec. 27-16-11w ..... Spudded and shut down.

MUSKOGEE COUNTY

Finefield and others' No. 1 Jobe, NE cor. NW SE Sec. 12-15-18 ..... Sand 1,100-10 ft., dry, shut down 1,252 ft.
J. A. Evans' No. 1 Thompson, SW cor. NW SW Sec. 2-14-19 ..... Drilling 350 ft.
Elk Drilling Co.'s No. 1 Jones, SW cor. SW Sec. 34-13-17 ..... Spudded and shut down.
Sioux Oil Co.'s No. 1 Bradshaw, CEL NW NE Sec. 24-13-18 ..... Drilling 540 ft.
L. T. Haney's No. 1 Mitchell, SE cor. NW SE Sec. 33-13-18 ..... Shut down 1,560 ft.
Rolestone and others' No. 1 Hixon, CNL SE NE Sec. 1-13-19 ..... Spudded.

OKLAHOMA COUNTY

Cromwell Oil & Gas Co.'s No. 1 Proctor, C SE Sec. 21-14-3w ..... Shut down 400 ft.
Slick & Bailey's No. 1 Koester, C SE NE Sec. 18-13-3w... Rigging up standard tools and shut down 3,800 ft.
Cromwell & Franklin's No. 1 Thompson, SW cor. NE NE Sec. 15-12-3w ..... Drilling out cement 6,820 ft.
Cromwell & Franklin's No. 1 Gross, SW cor. NE SW Sec. 22-10-2w ..... Shut down 4,702 ft.

CREEK COUNTY

Lima Oil & Gas Co.'s No. 1 Grayson, NW cor. NE NE Sec. 11-14-7 ..... Underreaming 1,425 ft.

CANADIAN COUNTY

T. B. Slick and others' No. 1 Pazowrech, NW SE Sec. 29-13-5w ..... Hole full water 4,338-4,452 ft., shut down 4,550 ft.
Ramsey Brothers' No. 1 Newman, CSL NE Sec. 9-11-7w... Drilling 3,840 ft.

LINCOLN COUNTY

Bu-Vi-Bar Petroleum Co.'s No. 1 School Land, C NE SE Sec. 16-13-4 ..... Shut down 4,500 ft.

OKFUSKEE COUNTY

Barnsdall Oil Co.'s No. 1 Self, SW cor. SE NE Sec. 21-13-9 ..... Show of oil 3,160-68 ft. Shut down 3,274 ft.
Prairie Oil & Gas Co.'s No. 1 Gray, SW cor. SW Sec. 19-11-7 ..... Drilling 4,115 ft.
Moose & Daniels' No. 1 Stidham, SW cor. NW Sec. 4-11-10 ..... Shut down 622 ft.

SEQUOYAH COUNTY

Hunt and others' No. 1 Unknown, SE cor. NW SW Sec. 12-12-23 ..... Rig.
Citizens Gas Co.'s No. 1 fee, SE cor. NE Sec. 7-11-27.... Dry and abandoned 2,000 ft.

POTTAWATOMIE COUNTY

H. F. Wilcox Oil & Gas Co.'s No. 1 Pickard, SE cor. SW Sec. 32-11-2 ..... Underreaming 4,465 ft.
Shaffer-Kilgore-Sykes' No. 1 Ives, C SE SE Sec. 12-10-3 ..... Underreaming 4,465 ft.
Prairie Oil & Gas Co.'s No. 1 Lumbley, SW NW SE Sec. 1-10-5 ..... casing 4,590 ft., hole full of water.
Central Commercial Oil Co.'s No. 1 McCrain, NW cor. NE SW Sec. 16-10-5 ..... Cleaning out 4,710 ft.
Superior Oil Co.'s No. 1 Herminghausen, SW cor. NW NE Sec. 24-8-2 ..... Fishing 4,110 ft.
Davy & Detrick's No. 1 McGehee, SW SE NW Sec. 10-6-2 ..... Shut down 4,998 ft.

CADDO COUNTY

Magnolia Petroleum Co.'s No. 1 Shelby, SW cor. SW Sec. 28-10-12w ..... Drilling 1,350 ft.
J. V. Bailey's No. 1 Hubbard, C NE NW Sec. 1-10-6w.... Shut down 150 ft.

SEMINOLE COUNTY

Roxana and Barnsdall's No. 1 Stidham, NW cor. NE Sec. 6-10-7 ..... Location.
Prairie Oil & Gas Co.'s No. 1 Davis, NE SE Sec. 21-10-7. Rig.
Prairie Oil & Gas Co.'s No. 1 Varnum, NW cor. SW SW Sec. 5-9-6 ..... Drilling 3,580 ft.

Cooling towers *must* be built of the finest materials to prove *economical!*

Fluor cooling towers are built to last a lifetime. If the plant served becomes obsolete or unprofitable, the Fluor tower can be easily unbolted and shipped to a new location.

Towers of inferior construction and materials must be written off in a very short period and their annual cost is much higher.

Fluor Towers are built throughout of finest selected redwood, free from sap or rot. They are impervious to insects and decay, and are highly resistant to fire.

Write, wire or telephone our nearest district office for prompt and capable service on any cooling problem.

Jackson Engineering & Equipment Company

909 East 59th St., Los Angeles, California

502 National Bank of Commerce Bldg., Tulsa, Okla.

707 Dallas National Bank Bldg., Dallas, Texas

FLUOR REDWOOD COOLING TOWERS

"Sully," the Chemist, Says

Cut Out Lost Motion with the Sulco BIG 3

These three Sulco Products work together to cut out costly waits, delays, lost production and lost motion in drilling operations:

KONSET to quicken the set of cement, saving 12 days per well or better. Waterproofs and hardens, accomplishing a complete water shut-off and quicker, better, longer-lasting cement work anywhere around the lease. Fine for floors. Oilproofs. Comes colorless or in choice of colors.

KLEEN-A-WELL for cleaning tubing and rods. Removes paraffine or asphaltum from oil wells, gypsum or salt from gas wells.

SLUSHMIX the improved mud-heavier or drilling mud. Increases weight of rotary mud. Lubricates the bit.

Put the Sulco "BIG 3" on the job and make more profit out of each well

For Sale by Any Supply Store or Lumber Yard

The SULLIVAN *Company*

Memphis, U. S. A. Montreal, Can.

Offices at
Tulsa
Houston
Los Angeles

SULCO LIFE PRESERVERS FOR THE OIL FIELDS PRODUCTS

Offices at
Shreveport
Casper, Wyo.

Export: Oilfield Equipment Co., New York

Life Preservers for the Oil Fields

The Texas Company's No. 1 Reed, SW cor. SW Sec. 12-8-5 ..... Drilling 3,610 ft.
Twin State Oil Co.'s No. 1 Walker, NE cor. NE Sec. 5-7-6 ..... Rig on ground.
Simon & Bean's No. 1 Palmer, SE cor. NW NE Sec. 7-7-6 ..... Rigged up and shut down.
Reiter-Foster Oil Co.'s No. 1 Coal, SW cor. NW SW Sec. 14-7-6 ..... Location.
Indian Territory Illuminating Oil Co.'s No. 1 Marshall, NW NW SW Sec. 32-7-7 ..... Fishing 4,759 ft.
McCullough Oil Co.'s No. 1 Powell, NW cor. NW Sec. 11-6-5 ..... Location.
Magnolia Petroleum Co.'s No. 1 Vierson, SE SE NW Sec. 5-6-7 ..... Cleaning out 3,370 ft.
The Texas Company's No. 1 Reed, NE cor. NW NE Sec. 24-6-7 ..... Location.
Gardner Petroleum Co.'s No. 1 Unknown, NW cor. SE Sec. 36-6-7 ..... Drilling 1,972 ft.
W. J. Hartley's No. 1 Galbreath, SE cor. NW SE Sec. 29-5-12w ..... Shut down 3,394 ft.

BECKHAM COUNTY

C. & H. Petroleum Co.'s No. 1 Barnes, SW cor. NW NE Sec. 32-9-22w ..... Shut down 3,000 ft.
Pferffel and others' No. 1-A Carter, NE cor. NE Sec. 35-9-22w ..... Shut down 300 ft.

GRADY COUNTY

Remington and others' No. 1 Fryrear, SW SW NE Sec. 13-9-5w ..... Shut down 720 ft.
Bedner and others' No. 1 Willis, C SW NW Sec. 13-7-5w ..... Shut down 2,450 ft.
Nichlos & Page's No. 1 Drake, SE NE SE Sec. 7-5-7-w ..... Shut down 1,900 ft.

M'INTOSH COUNTY

Marione Oil Co.'s No. 1 Sanders, NW cor. NE SW Sec. 10-9-18 ..... Shut down 2,250 ft.

M'CLAIN COUNTY

Daniels & LeWright's No. 1 Vandever, C SW Sec. 15-7-1w ..... Rig and tools.

KIOWA COUNTY

A. C. Varner and others' No. 1 Bonham, CSL NW NW Sec. 5-6-18w ..... Shut down 1,127 ft.

POTTOTOC COUNTY

Gillespie & Gant's No. 1 Taylor, SW SW SE Sec. 12-5-4 ..... Sand 2,818-52 ft., water; plugged back 2,570 ft, shot 80 and 20 quarts; swabbed 29 bbls.; shut down.
T. B. Slick's No. 1 Barnett, NE SE NW Sec. 13-5-6 ..... Shut down 3,245 ft.
Sinclair Oil & Gas Co.'s No. 1 McDaniel, NE cor. NE Sec. 17-5-6 ..... Sand, 3,378 ft; wtr., 3,405-11 ft; S.D.
Mid-Continent Petroleum Corp.'s No. 1 Unknown, SE NE NE Sec. 14-5-7 ..... Location.
T. B. Whitney and others' No. 1 Moore, SE SW Sec. 17-5-9 ..... Drilling 560 ft.
Winkler and others' No. 1 Tiner, C SW SE Sec. 31-5-9 ..... Shut down 2,761 ft.
Dixie Oil Co.'s No. 1 Perkins, SE NW Sec. 15-4-1 ..... Drilling 4,367 ft.; show of oil.
R. F. Garland's No. 1 Strickland, SW NW SW Sec. 10-4-3 ..... Shut down 2,650 ft.
Marland Oil Co.'s No. 1 Lawrence, C SW SE Sec. 10-4-4 ..... Fishing collapsed casing 1,215 ft.
C. J. Shervin and others' No. 1 Wright, NW NE NE Sec. 13-4-6 ..... Shut down 1,925 ft.
Boles and others' No. 1 Rayburn, SW SE Sec. 35-4-6 ..... Shut down 1,340 ft.
J. E. Crosbie's No. 1 Nowabbi, SE NE SW Sec. 8-4-7 ..... Rig on ground.
Henry and others' No. 1 Gregg, SW SE NW Sec. 14-4-7 ..... Shut down 1,090 ft.
Jolly-Ogg Oil Co.'s No. 1 Neeley, SE NE Sec. 24-3-10w ..... Spudded.

GARVIN COUNTY

Magnolia Petroleum Co.'s No. 1 Vaughn, NW SW NW Sec. 12-3-1 ..... Drilling 4,655 ft.
Heath & Bauman's No. 1 Hattell, SW SE SW Sec. 10-3-3 ..... Shut down 1,640 ft.

COMANCHE COUNTY

Danciger & Ellis' No. 1 Spitler, NE cor. SE Sec. 10-2-10w ..... Landing casing 2,202 ft.
Ashcraft and others' No. 1 School Land, SE cor. SE Sec. 20-2-10w ..... Broken sandy lime 822-954 ft.; swabbed 3 bbls.; total depth 978 ft.; shut down; material moved out.
Jenkins and others' No. 1 Smith, SW cor. SE SE Sec. 34-1-10w ..... Shut down 1,530 ft.

COAL COUNTY

Green and others' No. 1 Wilson, C NE SW Sec. 14-1-12w ..... Drilling 3,210 ft.; show gas.
Revels & Magee's No. 1 Labor, NW cor. NW Sec. 17-1-2 ..... Shut down 240 ft.
McCrow and others' No. 1 Patton, SW SE NE Sec. 35-1-8 ..... Shut down 973 ft.
Indian Territory Illuminating Oil Co.'s No. 1 Harris, SW cor. NW Sec. 10-1-11 ..... Fishing 1,630 ft.

OKLAHOMA PANHANDLE
CIMARRON COUNTY

Phillips and others' No. 1 Unknown, NW cor. NW Sec. 24-6-2 ..... Drilling 4,215 ft.
Sinclair Oil & Gas Co.'s No. 1 School Land, NW cor. NW Sec. 22-5-3 ..... Buliding rotary rig; old total depth, 3,865 ft. Core 4,624 ft.
Ramsey Brothers' No. 1 School Land, NE SW SW Sec. 21-5-5 ..... Drilling 100 ft.
Ramsey Brothers' No. 1 Unknown, NW NE Sec. 27-5-5 ..... Fishing tools, total depth 4,681 ft.
Ramsey Brothers' No. 1 School Land, SE SE Sec. 34-4-1 ..... Drilling 3,110 ft.
H. F. Wilcox Oil & Gas Co.'s No. 1 Hovey, NE SW Sec. 21-4-14 ..... Plugging 4,411 ft.
Gladys-Belle Oil Co.'s No. 1 Iserial, SW NE Sec. 25-3-7 ..... Drilling 4,293 ft.
Valerius & Wilkinson's No. 1 Unknown, SE cor. NE Sec. 25-3-7 ..... Drilling 2,545 ft.
H. F. Wilcox Oil & Gas Co.'s No. 1 Zea, NE SW Sec. 28-3-13 ..... Underreaming 3,765 ft.
Skaer and others' No. 1 Mathis, SW NE NE Sec. 17-3-23 ..... Drilling 3,170 ft.
Ross Fenton and others' No. 1 Graves, NE NE Sec. 2-2-9 ..... Spudded and shut down.

TEXAS COUNTY

Danner Oil Co.'s No. 1 Graves, NE cor. SW SW Sec. 23-2-18 ..... Shut down 700 ft.
Newsom and others' No. 1 Allison, SE SE Sec. 4-1-12 ..... Drilling 4,040 ft.
Dotton and others' No. 1 Baker, C NW Sec. 4-1-13 ..... Rotary rig blown down.
H. & H. Oil Co.'s No. 1 Hitch, NE cor. NE, Sec. 26-1-16 ..... Shut down 600 ft.
Three Way Oil Co.'s No. 1 Cane, SW NW Sec. 11-1-18 ..... Hole full of water 3,318-58 ft.; shut down.
Conley and others' No. 1 Unknown, SE cor. NW Sec. 5-1-19 ..... Spudded and shut down.

SOUTHERN OKLAHOMA
BRYAN COUNTY

Green Oil & Ref. Co.'s No. 1 Kemp, SE cor. NW NW Sec. 28-8s-9 ..... Shut down 600 ft.
Alexander & Oppenheimer's No. 1 Hampton, SE cor. NE Sec. 26-7s-11 ..... Shut down 1,425 ft.

JEFFERSON COUNTY

J. R. McCoy and others' No. 1 Smith, SE cor. NW Sec. 14-7s-6w ..... Rigging cable tools.

LOVE COUNTY

Magnolia Petroleum Co.'s No. 1 Davis, NW SW NE Sec. 7-7s-3 ..... Dry and abandoned 3,350 ft.

CHOCTOW COUNTY

Hugo Gay's No. 1 Smith, SE cor. SW NW Sec. 27-6s-16 ..... Shut down 1,540 ft.
Choctaw Petroleum Co.'s No. 1 Wilson, SW cor. SW Sec. 15-6-19 ..... Shut down 1,346 ft.

TILLMAN COUNTY

A. N. Peterson's No. 1 Mounts, SW cor. SW Sec. 3-5s-15w ..... Rig.
Fred Chopman's No. 1 Neif, NE cor. NW NE Sec. 11-5s-4 ..... Shut down 380 ft.
Landfair and others' No. 1 Smith, SE SW SE Sec. 6-2s-16w ..... Shut down 2,280 ft.

MARSHALL COUNTY

Kennedy Drilling Co.'s No. 1 Sacra, SW NE SW Sec. 17-5s-5 ..... Shut down 1,810 ft.
Laurel Oil & Gas Co.'s No. 1 Chastine, SE NW Sec. 26-4s-5 ..... Drilled to 3,055 ft. and abandoned; rigging rotary to drill deeper.

STEPHENS COUNTY

Pierce & Brown's No. 1 Garland, SE NW NE Sec. 34-2s-6w ..... Shut down 1,700 ft.

JOHNSTON COUNTY

McPherson and others' No. 1 Wyand, CSL NE NW Sec. 7-2s-9 ..... Shut down 4,400 ft.
Wapanucka Oil Co.'s No. 1 Banks, Sec. 28-2s-9 ..... Show of oil 2,181 ft.; shut down.

CARTER COUNTY

Grooms and others' No. 1 Morris, CSL NW NE Sec. 19-1s-2w ..... Shut down 3,463 ft.

MURRAY COUNTY

Thompson Oil Co.'s No. 1 Freeman, SE cor. Sec. 27-1s-2 ..... Rig.

It pays to specify

SIZES
1/8" TO 24"
O·D·~

ETNA

Steel Casing

ESTABLISHED
1828

DISTRIBUTORS:

Bovaird Supply Company
Tulsa, Okla.

Southwest Supply Company
Bartlesville, Okla.

Superior Tube Company
Tulsa, Okla.

Atlas Supply Company
Muskogee, Okla.

Hercules Supply Company
Dallas, Texas

Keystone Pipe & Supply Co.
Butler, Pa.

McEwen Bros.
Wellsville, N. Y.

Diamond Supply Company
Charleston, W. Va.

SPANG, CHALFANT & CO., INC.

GENERAL OFFICES, UNION BANK BUILDING

PITTSBURGH, PA.

Branch Offices:

PITTSBURGH, PA. CHICAGO, ILL. NEW YORK, N. Y. ST. LOUIS, MO. DALLAS, TEXAS

Mills:

ETNA, PA. SHARPSBURG, PA.

"No Praise is too Great for the New Layne Mill Grooved Screen"

That's why another Supt. of Production for a large company has just written us.

There are so *many* advantages found in this new design of *milled* groove screen that they can not be told on this page—But *users* ARE getting "screen results" never before imagined—

Send for details and find out HOW and WHY this new type of LAYNE SCREEN is greatly INCREASING production.

A quarter of a century's experience in designing and manufacturing oil and water well screens is built into this screen.

The Layne & Bowler Co.

HOUSTON, TEXAS.

VICKERS, LIMITED
LONDON, ENGLAND.

THE LAYNE & BOWLER CORP.
LOS ANGELES, CALIF

OIL COUNTRY GOODS DEMAND REPORTED SHOWING INCREASE

By B. E. V. Luty

PITTSBURGH, Pa., Feb. 13.—There have been divergent trends in the position of the pipe mills in the past week. On the one hand line pipe orders have been running out, so that production of line pipe has been at a reduced rate, while on the other hand there is a continuance of the mild increase in demand for standard pipe, and an increase, now seen for the first time this year, in demand for oil country goods.

The heavier demand for casing, drill pipe and other well material just now observed comes chiefly from California, where drilling operations promise to become heavier. Other fields are buying only at their usual small winter rate.

A large amount of line pipe business, chiefly for gas lines, was placed in the last three months or so of the old year, making a very substantial tonnage, but deliveries have been at such rapid rates that some of these orders are now entirely completed. There is a great deal of natural gas line pipe in sight but without any indication whether or not it will be closed in the near future. There are three lines in particular being talked of, respectively to Omaha, Kansas City and Memphis, each one of which would make a large order.

The pipe mills are running at an average rate of about 60 per cent of full capacity. The rate is a trifle less now than at the beginning of the year, the completion of some line pipe orders cutting off more tonnage than has been added by the slight increases in demand for standard pipe and ordinary oil country goods.

Prices Well Maintained

Prices of tubular goods are well maintained in the primary or mill market, but in some sections there is shading by jobbers, and it is understood that mills having consigned stocks are meeting the situation. This is in only a few sections, the secondary market in general being quite steady.

Pipe mills do not see any chance whereby prices might have a decline as they had last year. Rather a little talk has sprung up that there may possibly be an attempt in the not distant future to mark up prices. The pipe mills are much impressed by the advances that have been announced lately in various other finished steel products, including bars, shapes, sheets, wire products, hot rolled strips, cold rolled strips and cold finished bars. In some of these lines the mills are already receiving somewhat higher prices on current shipments but in general the advances are largely to take effect after old obligations have been cleared up.

As to the state of the steel trade as a whole there are very divergent opinions being expressed. In some quarters it is held that steel generally has had a great improvement in the past few weeks. In other quarters it is said the improvement is relatively small and that what there is of it is merely the usual and familiar seasonal improvement, which would be of only limited duration and would not constitute a favorable augury for the remainder of the year or perhaps even for the remainder of the half year.

Gain in Operations

The steel industry is now operating at 75 to 80 per cent of capacity, against a 75 per cent average for the whole of last year, which means quite an improvement over the second half, which witnessed a much smaller tonnage than the first half of the year. For four successive years steel production has increased through March and has then begun tapering off in April, so that it is well to suspend judgment as to the future. Again, in the matter of prices it is argued that some of the tonnage has been driven in on the eve of price advances and that specifying will not be so heavy when actual advances have to be paid.

The valley pig iron market has been extremely dull in the past week. On the other hand there has been much activity in the Detroit area, due to buying by the automobile trade, and also quite a volume of buying in the East and in New England.

The Connellsville coke trade remains very dull but is showing some little signs of improvement.

CENTRAL WEST FIELDS

(Continued from Page 69)

400 feet from the north line and 600 from the east line of the G. W. and M. E. Brooks 60 acres, Lot 15, is an average sized producer close around 500,000 feet.

In Wayne County, Chester Township, the Logan Gas Co.'s test in the northeast corner of the Joseph W. Troxel 82 acres, Section 7, is reported a duster. The Ohio Fuel Gas Co. has started the drill at a test 900 feet from the south line and 300 from the east line of the H. W. Gaul 61 acres, Section 34, Cannan Township.

In the Cleveland Field, Olmstead Township, Cuyahoga County, Goff Brothers' test 900 feet from the north line and 1,250 from the west line of the A. and A. Dryer 10 acres, Lot 29, is a very fair gas producer, with No. 2 nearing the sand. John Arthur drilled a dry hole at a test in the southeast corner of the L. S. Fuller 21 acres, Lot 28. Hulse & Kundtz drilled in an average gas well at a second test, 1,150 feet from the south line and 200 from the east line of the L. M. Ames 29 acres, Lot 28. This firm is drilling No. 3 well, 125 feet south of the road and 85 feet from the east line of the A. W. Eldred 55 acres, Lot 25, and is also drilling No. 1 on the N. J. Paddock farm, Lot 30, same township. In Middleburg Township, John Arthur's test on the Mary Gould, in Lot 6, is reported a duster. J. W. Cushing is drilling a test in the southwest corner of the J. A. Limpert 12 acres, Lot 6, Dover Township.

The Logan Gas Co. made a location for a test 300 feet from the north line and 960 from the west line of the R. E. VanWinkle 76 acres, Section 14, Perry Township, Coshocton County. The Preston Oil Co. is drilling No. 4 on the E. R. and O. M. VanWinkle 187 acres, Section 15, same township.

The Ohio Fuel Gas Co. is drilling a second test 500 feet south of the road and 660 from the east line of the George R. and Anna M. Shira farm, Lot 4, Brown Township, Knox County.

MODERN METHODS IN OLD SHAMBURG FIELD

Dr. S. N. Burchfield, of Titusville, Pa., has bought the oil leases of Robert S. Hampton, of Titusville, and Mrs. Susie Dunham, of Bradford, Pa., which occupy, in part, the site of the old town of Shamburg, in Venango County, Pennsylvania. The leases had been in possession of their former owners since 1887, but were originally drilled in the early days of Clarion County "oil excitement" when the oil industry was in its infancy. In the wild scramble to get leases oil operators agreed to royalties as high as 50 per cent and most of the properties were held in small parcels, in some cases only enough land being leased to make room for a drilling rig. After the flush production subsided the properties were not worth operating and were abandoned by the lease owners.

After years had passed, Hampton and his associates leased a block of these old properties on liberal terms and redrilled them, and they yielded 135,000 bbls. of oil and a profit to their owners. Now another stage has been reached and Doctor Burchfield buys the historic old properties and will operate them under the compressed air system in the hope that the renewed pressure will yield another profitable supply of oil.

That welding wire test *did* pay!

—as told by a man who made one

"WELDING WIRE costs do not stop with the purchase of the wire. With the high prices we are paying expert welders now it does not take many bad pieces of wire to waste a lot of dollars in time.

Then you must consider the investment in the finished article being welded. A fraction of a per cent of spoiled work or even poor work, may more than equal the total cost of the welding wire used.

We have found the best welding wire we can buy is the cheapest we can use because it saves expensive time. That is why we standardize on Page-Armco since we made our tests."

You can test Page-Armco Welding Wire in your own job. Your name and address will bring samples.

PAGE STEEL AND WIRE COMPANY

Bridgeport Connecticut

An Associate Company of the American Chain Co., Incorporated, Bridgeport, Conn.

District Offices:

Chicago New York Pittsburgh San Francisco

PAGE-ARMCO PROCESSED

Welding Wire and Electrodes

Natural Gas Developments

NEW ORLEANS SURVEYS NATURAL GAS SOURCE

By D. H. Bancroft

SHREVEPORT, La., Feb. 11.—Following application of certain unidentified interests for a franchise to supply gas to industrial and domestic consumers in New Orleans, the city has employed the J. W. Billingsley Co., New Orleans engineers, to conduct a survey of prospective sources of supply for a report on the amount of gas available, where it is, and the probable life of these various sources, the present and prospective pull on each and other data desired before proceeding with negotiations.

Sources of supply most available are the Terrebonne Field, 50 miles southwest of the city, and connection with the Monroe and Richland Fields via the Interstate Pipe Line Co.'s 22-inch line with probable new production in Ascension Parish. The first and third of these sources would be available by construction of 100 miles of pipe line while the Interstate company's line has been completed to Destrahan, 25 miles north of the city. The Interstate line is 22-inch to Baton Rouge and 16-inch from Baton Rouge to Destrahan and would probably have to be looped or relaid with 22-inch from Baton Rouge to the city to meet the demands upon it.

The Terrebonne Field has been producing for several years and in 1924 and 1925, the last years covered in the biennial reports of the State Department of Conservation, the metered consumption was slightly over 1,000,000,000 feet. At the present rate of pull the Monroe Field is estimated to have a commercial life of 40 to 50 years, but with El Dorado, Camden and other south Arkansas towns recently added to its market, and the probability of one, possibly two, more Interstate lines being built to draw partly from it and partly from the new Richland Parish Field, this period will be somewhat shortened. The Richland Parish Field is still more or less an unknown quantity as there has been no general survey or study made of it such as was made a few years ago (1921) by the United States Geological Survey. However, engineers for one pipe line project estimated the underground reserve, based on the present defined limits of the by no means permanently defined field at 1,000,000,000,000 feet.

Who it is that is seeking the New Orleans franchise has not, as stated before, been made public, but certain existing circumstances and statements made in announcement of plans for the Monroe-Baton Rouge line point in only one direction, and the current belief here is that the applicant is the Interstate Pipe Line Co., as it has both the reserve and the pipe line already available and could have its line at the New Orleans gate within 30 days.

GAS FOR CENTRAL WEST TEXAS

CROWELL, Tex., Feb. 11.—Construction of gas lines is proceeding in Central West Texas directly south of Red River, where 25 towns are to be furnished with natural gas, as a result of operations already under way, and with systems completed in two towns. The towns are: Crowell, Thalia, Truscott, Benjamin, Vera, Seymour, Knox City, Gilliland, Munday, Goree, Rochester, Weiner, Rule, Haskell, Rhineland, Hamlin, Stamford, Anson, Roby and Rotan. There are about five other towns to be added. About 180 miles of main line will pass through Hardeman, Foard, Knox, Baylor, Haskell, Jones and Fisher Counties.

Culbertson Brothers, Fort Worth and the Western Gas Co., with headquarters at Stamford, are conducting the work. Culbertson Brothers hold franchises only in Crowell and Thalia and have completed the distributing systems. About 10 miles of mains have been laid in Crowell and about 2 miles in Thalia. The line to the gas well from which the supply will be obtained soon will be finished. The well is 11 miles northeast of Crowell and 1 mile north of Thalia.

The Western Co. holds the other franchises. Officials of the West company are C. O. Moore, president; T. E. Patton, vice president; S. L. Moore, treasurer, and C. S. Roe, secretary. The project likely will be completed before June.

ROCK PRESSURE RULE CHANGED IN GAS FIELD

SHREVEPORT, La., Feb. 11.—Following a conference in the Department of Conservation offices here between operators in the Monroe gas field, Dr. V. K. Irion, head of the department, W. F. Chisholm, supervisor of the minerals division and other department officials, a reduction in working pressure on wells in the White area of the Monroe Field from 200 to 150 pounds was authorized by the commissioner and a committee was appointed to work out the details.

The White area of the Monroe Field is one of the low pressure areas and the operators' plea was that working pressure, now limited to a minimum of 200 pounds, is too great to permit producing wells in that part of the field. They were agreed on this point but there was more or less difference of opinion whether the desired reduction should be made at once or whether the new minimum of 150 pounds should be approached by degrees.

Among the operators attending the conference were D. Oaklund, Ladel Properties, Inc.; C. V. Teegerstrom, Carson Carbon Co.; P. McDonald Biddeson, Natural Gas & Producing Co.; B. M. Nowery, Palmer Corp., and H. F. Madison, Jr.

HELIUM IN GERMANY

Helium has been discovered near Ruesselheim, Germany, at a depth of about 600 meters, according to a report by Frankfort-on-Main papers. It is asserted that a divining rod expert, Herr von Graeve, employed by the Oppel works to locate water, discovered a fissure in the rock far below the surface containing helium gas. Drilling will probably be started soon. The divining rod expert's assertion has been received with skepticism by the Reich Geological Institute, which points out that helium has been found in a number of German gas wells and mineral springs, but in such small quantities that exploitation would never pay. American gas wells furnish as much as 1 per cent of helium, but the percentage in German wells has never been more than one ten-thousandth per cent.

CINCINNATI GAS DEAL

Proposals looking to a simplification of the corporate and financial organization of the gas and electric properties serving Cincinnati and surrounding towns have been made to the Cincinnati Gas & Electric Co. by the Columbia Gas & Electric Corp.

The Cincinnati gas properties are leased to the Union Gas & Electric Co., a subsidiary of the Columbia. Directors of the Cincinnati Gas & Electric are scheduled to meet soon to take action on the proposal, which, it is understood, offers Cincinnati Gas stockholders an exchange of their stock, share for share, for a preferred stock of a new company to be formed by the Columbia system to incorporate in one unit the ownership and operation of the Cincinnati properties. It is said that the new issue will be a 5 per cent preferred, with a callable feature at 105.

BUY FORT GIBSON LEASES

SHREVEPORT, La., Feb. 11. — The distributing system and approximately 400 acres of leases near Fort Gibson, Okla., have been taken over from the C. N. Haskell interests of Oklahoma by S. R. Morgan, of Little Rock, and his associates in his various public utilities enterprises. The transfer, it is reported, involved $550,000. Morgan and associates have been operating a chain of ice plants in Oklahoma but the Fort Gibson plant is their first gas business in the State. They recently sold their El Dorado, Ark., gas business and their half interest in a pipe line from the Monroe Field in Louisiana to the Hunter estate of Shreveport.

NEW WEST VIRGINIA KENTUCKY GAS ZONE

MORGANTOWN, W. Va., Feb. 11.—Southern West Virginia and the adjacent Kentucky area embrace a gas production field which may develop a valuable and extensive industry, according to a report made public today by David B. Reger, of Morgantown, acting state geologist.

Upwards of 50 wells have been drilled in Cabell County, of which Huntington is the county seat, 38 in the Ashland, Ky., vicinity and one each in Wayne and Boone Counties, West Virginia, Reger's report said. The combined daily production of the wells is reported as large, with additional development going forward.

GAS MERGER TERMS

Terms under which the Arkansas Natural Gas will be merged with the Cities Service Co have been announced in Pittsburgh. Stockholders of the acquired company will receive for each old share held .965 of one share of 6 per cent preferred and one share of no-par common in a new Arkansas Natural Gas Corp. to be formed by the Doherty interests.

The new corporation will have $21,930,000 of 6 per cent cumulative preferred stock of $10 par and 4,084,225 shares of common. Under the exchange offer Arkansas Natural Gas stockholders will receive $15,780,000 of preferred and 1,633,690 shares of common.

The Pittsburgh advices said the new corporation would issue $13,000,000 first mortgage 15-year 6 per cent bonds, which will be used to purchase gas properties of the Southwestern Gas & Electric Co., and gas and oil properties of its subsidiary, the Bethany Oil & Gas Co., from the Insull interests.

The National Gas & Fuel Corp. and the Industrial Gas Co. will be included in the merger.

FORT WORTH GAS RATES

FORT WORTH, Tex., Feb. 11.—The Fort Worth Gas Co. has taken its dispute over rates to the Texas Railroad Commission. The company asks for a minimum monthly rate of $1 and $1.50 for the first 1,000 feet of gas used by domestic consumers. President O. K. Shannon charged that the company had been denied access to the report of C. H. Montgomery, rate expert, which declared the company earned slightly in excess of 10 per cent in 1926. The company's application for a rate increase protested that the company is able to earn less than 4 per cent on a fair valuation of its property and alleged that present rates are confiscatory. Hearings will begin February 20.

CRESCENT DISTRIBUTION SYSTEM

A new gas distribution system has been installed at Crescent by the Oklahoma Central Gas Co. The supply is furnished by the Texas & Pacific Co.

MOODY-SEAGRAVES CO. HOLDINGS IN LOUISIANA

SHREVEPORT, La., Feb. 11.—With a nominal capitalization of $5,000 the Moody-Seagraves Gas Co. has been incorporated here to conduct the affairs of the Moody-Seagraves interests in the development of their properties in the Richland and Monroe gas fields. Aside from the area they hold in Caddo Parish through Greenwood Production Co., their half interest in the State Line Oil & Gas Co., and their half interest in the Reserve Natural Gas Co. Moody & Seagraves have some proven and semiproven acreage in the Monroe Field and several thousand acres in the Richland Field, about half of it in one large block and the other half scattered in 40s and 60s checkerboarded from the southwest angle of the field northeast to the opposite extremity and beyond.

Their half interest in the Reserve Natural Gas Co. acquired last summer when they bought The Texas Company's interest in the property, is perhaps the source of rumors that Moody and Seagraves will be in on the proposed Richland-Monroe-St. Louis gas line. They bought that half interest while Empire Gas & Fuel Co. was dickering with Benedum & Trees for their Arkansas Natural Gas Co. and Arkansas Fuel Oil Co., and now that the Empire-Benedum & Trees project has been completed the Doherty interests find themselves sharing a small part of their properties with a rival.

It was Moody & Seagraves who made the announcement last fall of a 24-inch line from Richland and Monroe Fields to St. Louis and East St. Louis, with a probable lateral to Memphis, and a short while ago a Doherty executive in El Dorado, Ark., said it is not impossible that the Empire will build 144 miles from Little Rock, where the Arkansas Natural Gas Co. line from the northwest Louisiana fields ends, to Memphis. It was said also that the Empire Gas & Fuel Co. line from the Johnson County, Arkansas, Field to Conway will be built across the intervening 40 miles for a union with the Arkansas line at Little Rock.

O. R. Seagraves of Houston is president of the Moody-Seagraves Gas Co., W. L. Moody, III, vice president and treasurer; Harvey S. Smith, also of Houston, vice president and secretary, and B. A. Hardy, Shreveport, vice president in charge of operations. These, with Eugene Harding of Shreveport, comprise the directorate and the majority stockholders.

LOS ANGELES EXPANSION

LOS ANGELES, Calif., Feb. 11.—Approximately $8,500,000 for physical development in 1928 is being outlined by the Los Angeles Gas & Electric Corp., according to A. B. Day, vice president and general manager. This sum will be spent for gas and electric service extensions, new generator stations, two large new substations, stepdown stations, power lines, etc.

The largest single item will involve the construction of an addition to the steam generating plant at Seal Beach.

DOMESTIC USE PRIORITY

AUSTIN, Tex., Feb. 11.—An order issued by the railroad commission will be of importance to cities using natural gas as it directs the gas companies at Marshall to curtail the supply to industrial plants when domestic requirements are inadequately supplied.

The Industrial Gas Co. and the Marshall Gas Co. are named in the commission's order. This is the first order of its kind ever made by the commission.

You Can Lay "That" Line in ⅓ the Time With Smithsteel Gas Line Pipe

Save 2-3rds of the time through quicker delivery of uniform and accurate pipe with 87 less joints per mile, therefore easier to align and join

A. O. SMITH CORPORATION *Oil and Gas Field Products Division*

General Offices, Milwaukee, Wis. *District Offices at* New York, Pittsburgh, Tulsa, Houston, Los Angeles

SMITHSTEEL GAS LINE PIPE

EQUIPMENT AND SUPPLIES

BITUMINOUS LIQUIDS APPLIED WITH A GUN

The Quigley Bitumen Gun, manufactured by the Quigley Furnace Specialties Co., New York, carries the spray method of handling liquids into a new field, that of applying bituminous products as protective coatings to foundations, walls, roofs, dams, bridge piers and abutments, pipe lines, penstocks, vats, vaults, etc.

With this gun it is asserted two men can do as much work as 12 with mop or brush, in the same time.

The Quigley gun sprays or shoots liquids of practically any consistency or temperature, through special insulated, metallic hose, any distance up to several hundred feet from the gun. Volume and pressure are under easy control, assuring uniform coverage, regardless of atmospheric temperature. The gun covered more than 60 square feet in 20 seconds. Five gallons were sprayed in one minute, covering approximately 125 square feet.

BOURNE JOINS HERCULES

H. R. Bourne

H. R. (Harry) Bourne has joined the Hercules Motors Corp. of Canton, Ohio, to reorganize that concern's oil field division with a view of pushing more actively the use of Hercules engines in the oil industry. He has followed the oil fields for years in the distribution of Gardner pumps and compressors. Mr. Bourne's new position is that of manager of the Hercules Petroleum Division.

PUMP AGENCY ESTABLISHED

Sales and service facilities for fields east of California for the EPCO pump have been established through the National Supply Co. by the manufacturers, the Economy Pump & Oil Tool Co. of Los Angeles, Calif.

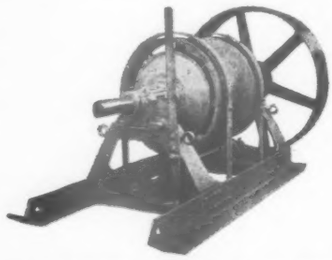
The working barrel of this pump is of the inserted type. The valves are spaced to prevent "gas-lock" and the standing valves are oversize, there being, for instance, a 3-inch standing valve on the 2½-inch pump.

MINIATURE RECORDER OFFERED

The Bristol Co., Waterbury, Conn., manufacturer of recording instruments for use in oil refineries, has developed a new small atmospheric recording thermometer using 4-inch charts. Charts used are designed with a view of the kind of service required.

REVERSE CLUTCH FOR HIGH-SPEED DRILLING

The new Climax reverse clutch manufactured by the Climax Engineering Co., Clinton, Ia., combines operating efficiency with constructional strength. The clutch is operated by a "feather touch" control from the derrick floor. One lever, regardless of the operating speed, controls five different operating positions. One position of the lever controls the forward motion of the band wheel, another the neutral, a third the "hold" that is a distinct feature made possible by the Climax "Neutral Brake." A fourth operation



controls another neutral, and the fifth reverses the motion of the band wheel. All "forward," "neutral," and "reverse" brakes have extra large friction surfaces that can be adjusted by a simple nut and independently of each other. The large friction surfaces enable the driller to "feel" his load. The tool can be picked up slowly or quickly with a minimum effort on the part of the operator.

A special feature provides air circulation to cool the clutch at times of excessive use, as when running pipe. The clutch weighs 3,980 pounds and is capable of transmitting the tremendous flow of power from the Climax "Paymaster" 6-cylinder drilling engine (for which it was designed) without vibration.

IMPROVED VALVE DEVELOPED

The MacGregor Rotary Valve, recently developed, resembles the older type cock except that the rotor or plug receives a one-quarter turn for "on" or "off." There is no taper of the plug or seat, the walls are cylinders, the plug is a piston. Advantages which the manufacturers say the MacGregor valve has include the fact that it is self-lubricating, has an automatic lubricant seal and interchangeable parts, is easy to turn and is supplied with an indicator which shows when the lubricant reservoir needs refilling.

McFARLAND GOES TO LINC-WELD

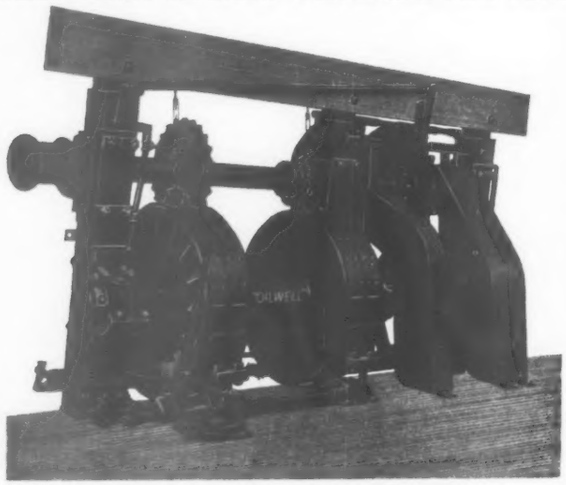
The Lincoln Electric Co. of Cleveland, O., announces the retention of A. M. MacFarland as a general sales and development engineer. He will devote his efforts to the development and special application of automatic carbon arc welding, with headquarters in Cleveland.

BUSINESS NOTES

C. F. (Bud) Vincent has been appointed Mid-Continent representative for the Wilson Oil Tools Corp., with headquarters in Tulsa, Okla. Mr. Vincent represented the Wilson concern in the West Texas fields several years ago. Before that he gained practical field experience through work in drilling crews.

E. R. Lederer, vice president of the Texas Pacific Coal & Oil Co., Fort Worth, Tex., has returned from Detroit, where he attended the annual meeting of the Society of Automotive Engineers and visited some of the large automobile and airplane manufacturers to acquaint them with Amlo oils, made in his company's Fort Worth refinery.

"OILWELL" HOIST OR DRAW WORKS HAS NEW FEATURES



Many new features are embodied in the "Oilwell" Class 353-E Hoist or Draw Works which is designed and constructed for three-speed operation under heaviest drilling service.

All speed sprocket drives are located between the two uprights which are farthest from the operator's position, thus protecting the operator from the possibility of injury. This concentration of the entire driving power of the shaft in one place also results in correct balance of the space between the uprights, increased shaft strength and the equalization of shaft loads.

The brakes are air-cooled, the brake flanges being separate units especially designed with self-contained fans. These fans bring a constant equal amount of air into contact with all heat dissipating parts of the flanges, and the circulation of air is proportional to the speed of the hoist.

Four heavy duty brake bands, two on each flange, provide braking power, and each set of two bands is equalized to give uniform pressure and wear on the linings. The two sets of bands are also equalized through a heavy duty safety type equalizer. Each brake band can be adjusted individually. The drum spool is of cast steel in one piece.

RUSSIA GETTING TOOLS FOR ROTARY DRILLING

Shipment by the American Iron & Machine Works, Inc., Oklahoma City, Okla., on January 14, of a $40,000 carload of oil field tools to Soviet Russia, marked its twentieth foreign order filled. This shipment, the largest of its kind ever sent to a foreign destination, is the second Russian order filled by the same company in the last eight months.

These tools will be used for the rotary drilling rigs in the Russian deep wells and were ordered for the field around Baku, known in America as the "Seminole of the Eastern Hemisphere." Oil is found there at about 4,000 feet and in a formation much like the Wilcox sand in the Mid-Continent Field.

According to J. F. Cailloux, president, foreign shipments present no easy job. The Russian transaction was made through the Oil Well Supply Co., of Pittsburgh, which exports American tools.

WESTINGHOUSE CATALOG OUT

The 1928-1930 catalog of electrical supplies of the Westinghouse Electric & Manufacturing Co. presents the electrical and mechanical features and application information for all supply apparatus and appliances manufactured by the company, and in addition describes and illustrates large motor and generating apparatus.

Important among new developments is a complete line of network protectors, transformers, regulators and relays especially designed for low voltage alternating current distribution networks.

Other equipment described includes new and improved airport floodlighting equipment, farm lighting sets, portable arc welders and a new line of small turbine generator sets.

The catalog, containing about 1,200 pages, is the result of the efforts of the engineering, sales and advertising departments of the Westinghouse company to give the electrical industry accurate information concerning many products.

TWO NEW OFFICES OPENED

The Oil and Gas Field Products division of the A. O. Smith Corp. announces the opening of a New York office in the Equitable Building, 120 Broadway, in charge of Edward A. Livingstone, and the opening of an office in the Neils Esperson Building, Houston, Tex., in charge of J. R. McCrea. Mr. Livingstone is succeeded in the Los Angeles office by Henry A. Bourne, Jr. The Oil and Gas Field Products division, supervised by C. C. Joys, Jr., handles the sales of Smithsteel cracking stills, casing couplings and gas line pipe for the A. O. Smith Corp.

TRADE LITERATURE RECEIVED

A 6-page folder, illustrated in colors, issued by the Kelly Co., Chicago, calls attention to the fact that all working parts of the Kelly Neway valve are renewable and that the discs and plates are self-cleaning.

A bulletin issued by Wilson-Snyder, Pittsburgh, Pa., is devoted to high-pressure hot oil pumps.

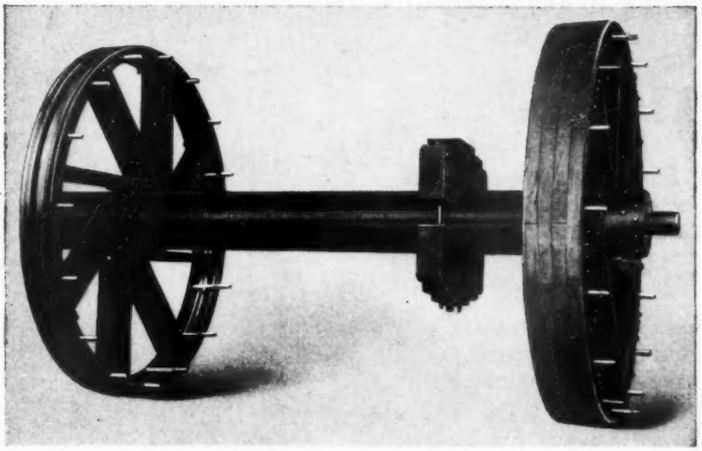
Recording wattmeters are described in a catalog mailed by the Bristol Co., Waterbury, Conn.

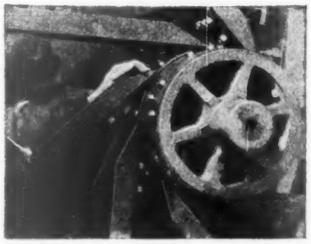
A bulletin from the International Nickel Co., New York, tells of "The Practical and Economic Value of Nickel and Chromium in Gray Cast Iron."

The Smith-Hamburg-Scott Welding Co. of New York, Inc., sends out a two-color bulletin devoted to De Luxe All Welded Steel Tanks, which, according to the manufacturer, make the unloading of heavy lubricating oil as easy and rapid in winter as in hot weather.

MOORE STEEL BULL WHEEL

Moore Steel Bull Wheels
Conform to A. P. I.
Dimensional Standards





SPOKE CONSTRUCTION

Flanges of spokes are trimmed to facilitate assembly. Spokes are tangent, giving direct push on the shaft. Shaft is shrunk on and gudgeons riveted.

THESE features are responsible for the long continued service rendered by Moore Steel Bull Wheels under all conditions:

1. Heavy shaft — ½ inch wall is our standard thickness
2. Shaft heated and shrunk over gudgeons
3. Gudgeons securely riveted in place
4. One piece, rolled steel, double groove tug rim
5. V groove tug, giving maximum pulling power
6. Tangent spokes, exerting direct push on shaft
7. Flanges of spokes trimmed, for easy assembly

1⅛" wall shafts can be furnished for special work.

The thousands of Moore Steel Bull Wheels, doing their work practically without repair or maintenance expense, testify to their success.

World Wide Service for Twenty Years

LEE C. MOORE & CO., *Inc.* PITTSBURGH · TULSA

Established 1907

DALLAS, TEXAS HOUSTON, TEXAS WICHITA FALLS, TEXAS BORGER, TEXAS PARKERSBURG, W. VA.
CASPER, WYO. SHREVEPORT, LA. EL DORADO, KAN. EL DORADO, ARK.

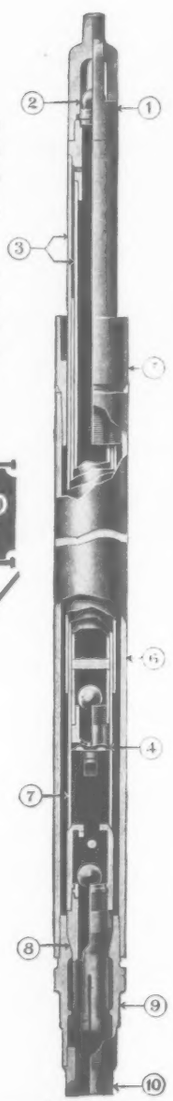
Reduce Your Shutdown Time—

Probably 85% of your shutdown time on wells is caused by pump trouble—and certainly you can eliminate most of that trouble by using FLUID PACKED PUMPS.

You get away from necessity of recupping, relining, etc., when you use the frictionless, fluid packed pump that has no cups, no packing, no close-fitting parts, and no metal-to-metal wear.

FLUID PACKED PUMP
FPP

FLUID PACKED PUMPS are manufactured of selected materials, with the latest and most improved machinery. All parts are constantly gauged by trained inspectors.



Removable Type—
This type of FLUID PACKED PUMP pulls with a rod action. Also furnished in Rigid Type recommended for use where pumping conditions are extremely difficult.

Made *only* by the FLUID PACKED PUMP CO., Los Neitos, Calif. Distributed in the Mid-Continent by Robert N. Atmore Company, Tulsa, Okla.

ROBERT N. ATMORE COMPANY
FLUID PACKED PUMPS

NEW LOCATIONS IN TEXAS PANHANDLE AND NORTH AND WEST TEXAS FIELDS

TEXAS PANHANDLE

Carson County

Empire Gas & Fuel Co.'s No. 1 The Texas Company-A, C NE Section 60, Block 4, I. & G. N. Survey. The Texas Company's No. 1 W. H. Cobb, 1,420 feet north and 330 feet west of SE cor. of the south 100 acres of SE Section 202, Block 3, I. & G. N. Survey.

Gray County

Danciger Oil & Refining Co. and others' No. 9 W. Jackson, 330 feet south and 990 feet west of the NE cor. NW, Section 88, Block B-2, H. & G. N. Survey. Same company's No. 10 W. Jackson, 330 feet south and 1,650 feet west of the NE cor. NW, Section 88, Block B-2, H. & G. N. Survey. M. J. Delaney and others' No. 3 W. Jackson, 990 feet south and 330 feet west of the NE cor. E half SW, Section 88, Block B-2, H. & G. N. Survey. The Texas Company's No. 2 A. Chapman, 330 feet north and 990 feet east of the SW cor. NW, Section 51, Block 25, H. & G. N. Survey. Same company's No. 1 M. B. Davis, 330 feet north and west of the SE cor. NE, Section 8, Block 1, A. C. H. & B. Survey.

Hardendorf Drilling Co.'s No. 1 G. A. Henderson, 330 feet south and west of NE cor. E half NE Section 47, Block 25, H. & G. N. Survey. Phillips Petroleum Co.'s No. 1 J. B. Bowers, 330 feet south and east NW cor. E half SW Section 63, Block B-2, H. & G. N. Survey. The Texas Company's No. 1 C. Thut, C N half of the east 320 acres of Section 1, H. & G. N. Survey.

Hutchinson County

Dixon Creek Oil Co.'s No. 1 S. B. Burnett estate, 330 feet south and east of the NW cor. of the east 240 acres of the north 320 acres of Section 120, Block 4, I. & G. N. Survey.

Wheeler County

Sun Oil Co.'s No. 1 G. Krc., 660 feet south and east of the NW cor. NW, Section 127, Block 23, H. & G. N. Survey.

NORTH CENTRAL AND WEST TEXAS

Archer County

Burleson & Chenault's No. 1 J. R. Parkey, 1,350 feet north and 30 feet west of the SE cor., Lot 22, J. R. Parkey Subdivision, Dallas County Land, A-113. Panhandle Refining Co.'s No. 2 J. R. Garvey, 150 feet south and west of the NE cor. SW, Section 1,856, T. E. & L. Survey. Silkwood & Brashear's No. 1 J. P. Davidson, 150 feet south and east of the NW cor. SE of the J. S. Roberts Survey, A-366.

Continental Oil Co. and Perkins & Cullum's No. 8 L. F. Wilson, 815 feet north and 800 feet east of SW cor. SW Lot 4, Section 114, A. T. N. C. L. Survey. F. H. Gohlke's No. 1 W. F. Parrish, 150 feet south and west of NE cor. Lot No. 232, Geraldine Subdivision. Holcombe & Jones' No. 1 J. M. Hawley, 1,050 feet north and 300 feet east of SW cor. Section 17, League 3, Denton County School Land, A-117, being 150 feet south and east of NW cor. Block 80, Town of Holliday. Same company's No. 2 J. M. Hawley, 1,200 feet north and 650 feet east of SW cor. Section 17, League 3, Denton County School Land, A-117, being 150 feet south and east of NW cor. Block 59, town of Holliday. Same company's No. 1 Kemp & Kell, 1,400 feet north and 200 feet east of SW cor. Section 17, League 3, Denton County School Land, A-117, being 150 feet north and west of SE cor. Block 81, town of Holliday. Same company's No. 2 Kemp & Kell, 1,500 feet north and 550 feet east of SW cor. Section 17, League 3, Denton County School Land, A-117, being 150 feet north and east of SW cor. Block 58, town of Holliday.

F. P. Rose and others' No. 1 J. J. Perkins, 150 feet north and west of SE cor. of east 60 acres of south 80 acres, Lot No. 2, Section 10, A. T. N. C. L. Survey. The Texas Company's No. 1 J. R. Garvey, 150 feet north and west of SE cor. of west 100 acres of north 160 acres, Section 1,856, T. E. & L. Survey. Lee Wilson's No. 1 D. C. Carr, 150 feet north and east of SW cor. of east 68.2 acres of D. C. Carr 132.3-acre tract out of E. L. & R. R. Survey No. 1, A-687. Gulf Production Co.'s No. 1 E. J. Netherton, 1,971 feet north and 660 feet west of SE cor. Lot 4, Section 95, A. T. N. C. L. Survey. Gulf Production Co.'s No. 1 E. S. Tabor, 750 feet south and 150 feet west of NE cor. Section 9, E. Tabor Subdivision, Dallas County School Land, A-113.

Brown County

J. B. Blanchard and others' No. 2 Mrs. S. C. Kesler, 450 feet north and 150 feet west of the SE cor. of the west 20 acres of the south 80 acres of the SW, Section 42, H. T. & B. Survey, A-2,033. W. T. Daniels and others' No. 1 A. S. Alvis, 150 feet north and east of SW cor. NW, Section 37, H. T. & B. Survey, A-503. U. I. Miller's No. 1 Fannie Allcorn, 2,602 feet south and 150 feet east of the NW cor. of the Fannie Allcorn 100-acre tract out of the Roland Honeycutt Survey No. 623. W. M. Mitchell's No. 1 Fannie Allcorn, 3,246 feet south and 150 feet east of the NW cor. of the F. Allcorn 100-acre tract out of the Roland Honeycutt Survey No. 623. Pandem Oil Corp.'s No. 3 A. L. Curry-B, 150 feet south and west of the NE cor. of the south 20 acres of the north 40 acres of the west 80 acres of the E. L. Betts Survey, A-70.

Pandem Oil Corp.'s No. 2 A. D. Hutton-A, 783 feet south and 150 feet west of the NE cor. of the J. A. Nobles Survey, A-1,947. M. L. Richards' No. 2 A. L. Curry, 150 feet north and west of the SE cor. of the north 20 acres of the west 80 acres of the E. L. Betts Survey, A-70. Scrivenor and others' No. 1 R. W. Miers, 450 feet north and 150 feet east of the SW cor. of the north 40 acres of the west 66.66 acres of the R. W. Miers 320-acre tract out of the S. A. & M. G. Survey No. 3, A-851. Syndicate Oil Co.'s No. 1 R. W. Bush, 150 feet south and west of the NE cor. of the R. W. Bush 154.6-acre tract out of the James Kenny Survey No. 624. S. S. Aldridge's No. 1 J. D. Woods, 300 feet northwest of the southeast line and 450 feet northeast of the southwest line of the D. P. Gentry Survey, A-1,731. Chestnut & Smith & Owens' No. 1 Ed Hennigan, center of the west 75 acres of the south 150 acres of the Ed Hennigan 298-acre tract out of the M. E. P. & P. Survey No. 1, A-681. Cranfill & Reynolds No. 1 J. B. Whitehead, 110 feet south and 160 feet east of the NW cor. of the M. Broom Survey No. 10, A-1,196. W. B. Paty's No. 1 James McGarfity, 150 feet northeast of the southwest line and 660 feet southeast of the northwest line of the James McGarfity 40-acre tract out of the John S. Thom Survey.

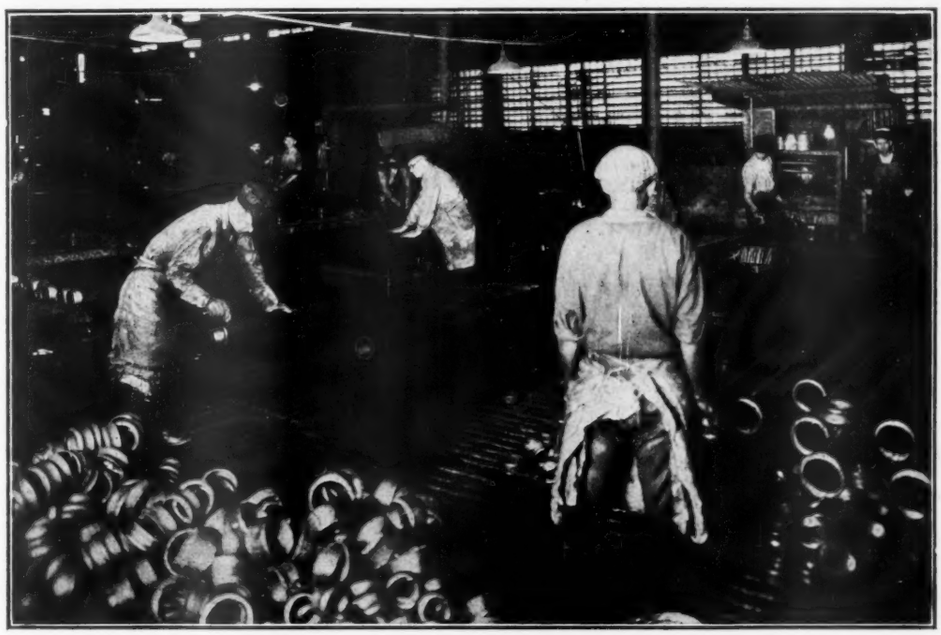
Kone Production Co.'s No. 9 Roy Hickman, 1,050 feet north and 150 feet west of the most southerly SE cor. of its lease out of the Thomas Benson Survey, No. 783. Pandem Oil Corp.'s No. 2 A. L. Curry-B, 150 feet north and east of SW cor. of north 20 acres of south 60 acres of west 80 acres of E. L. Betts Survey, A-70.

Syndicate Oil Co.'s No. 1 A. L. Curry, 150 feet south and east of NW cor. of south 40 acres of west 80 acres of E. L. Betts Survey, A-70. S. J. Taylor and others' No. 1 J. R. Lewis, 150 feet south and east of NW cor. of J. R. Lewis 400-acre tract out of James Kenny Survey, A-624. Williamson and others' No. 2 R. L. Eddington, 150 feet south and east of NW cor. of R. L. Eddington 512-acre tract out of Robert Mitchell Survey No. 141.

Callahan County

T. J. Garner & Valley Oil Co.'s No. 1 P. G. Hatchett, 150 feet north and east of the SW cor. NW NE, Section 30, Deaf and Dumb Asylum Lands. Peer Oil Corp. and others' No. 1 I. G. Harris, 150 feet south and east of the NW cor. SW, Section 19, B. B. B. & C. Survey. L. A. Warren's No. 1 A. R. Kelton, 840

MAKING GOOD IN THE FIELD MAKES FRIENDS FOR WHEELING!



Wheeling Inspection is thorough. The accuracy of threads on pipe and couplings is systematically checked against working gauges. Each individual threaded end and each coupling is checked and verified with a gauge. No expense has been spared to insure a high standard of perfection for all products.

Inspection Keeps Pace with Production

WHEELING practice is to give as much attention to the inspection of its products as to their manufacture.

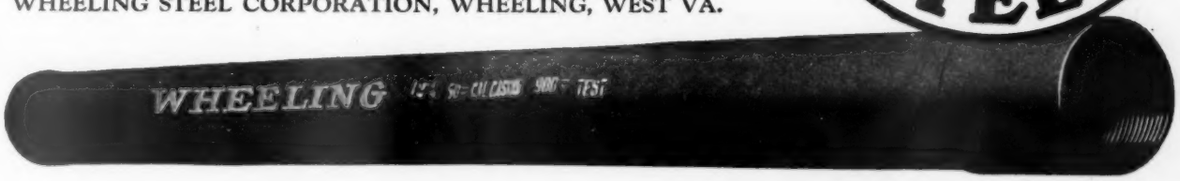
This policy produces results in the field such as this,—1,494,240 feet of Wheeling (LaBelle) Line Pipe used by one company in 12 months, every foot, every joint 100% satisfactory.

Examples of this kind, multiplied many times, are reasons why drillers favor Wheeling Casing, Tubing, Drive and Line Pipe today more than ever before. Let Wheeling pipe get down to business for you.

WHEELING STEEL CORPORATION, WHEELING, WEST VA.

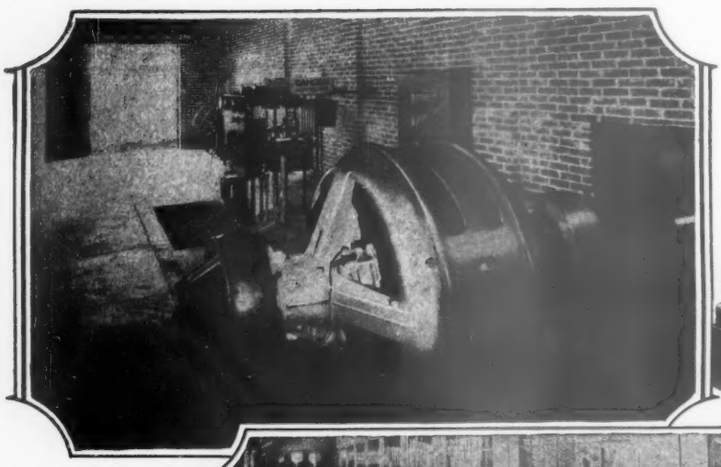
"From Mine to Market"

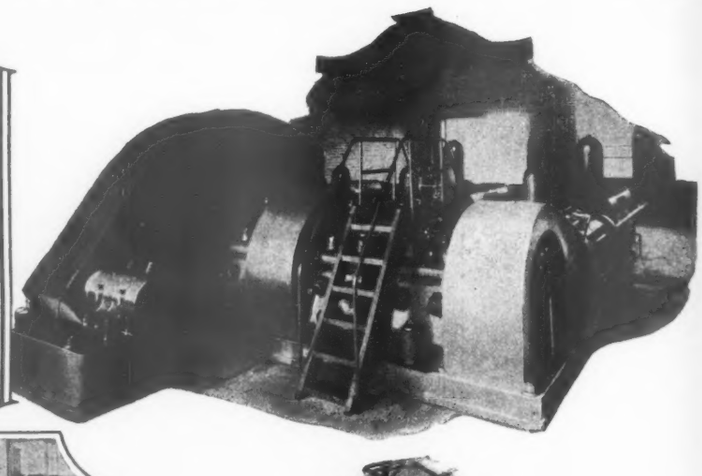
WHEELING STEEL



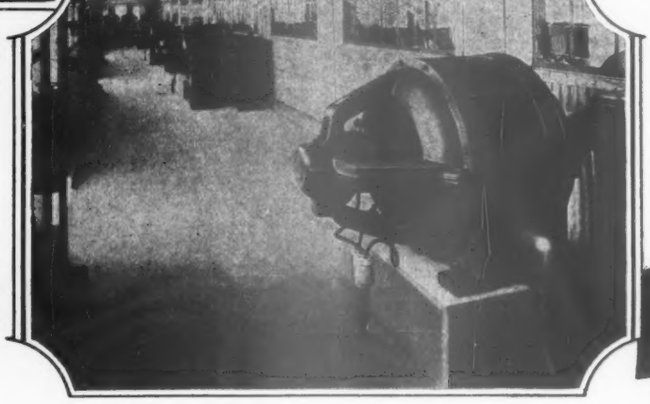
WHEELING

CASING · TUBING · LINE PIPE

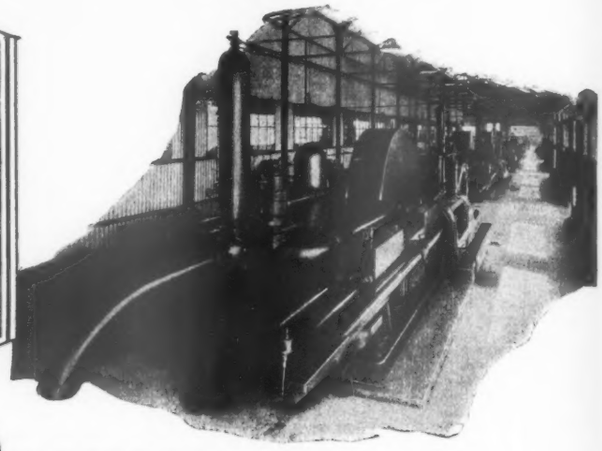




One of the G-E 600-hp. synchronous motors driving 25,000-barrel pump at Oklahoma Pipe Line Co., Council Hill, Okla.



Four G-E 200-hp. induction motors driving pumps at the Empire Pipe Line Company, Lima, Okla. This equipment handles 32,000 barrels per day.



Why Electric Power *for pipe lines?*

Here are ten good reasons why electric drive for pipe lines appeals to progressive oil operators:

1. Its initial cost is lower.
2. It costs less to install.
3. It can be housed in inexpensive structures.
4. It solves the question of water supply.
5. It requires less man-power—and no skilled attendants.
6. It costs less to maintain.
7. Its depreciation is less.
8. It is unaffected by extremes of temperature.
9. Its flexibility is greater.
10. It is more reliable.

Whether you use centrifugal or reciprocating pumps, G-E Motorized Power is readily adapted to your requirements—there is no better drive for your pipe line equipment. Your nearest G-E office is always ready to supply information and other service.

General Electric supplies complete electric equipment to the oil industry. With warehouse facilities close to your operations, G.E. readily furnishes motors, controllers, transformers, arresters and other protective devices, capacitors for power-factor improvement, switching equipment, etc.

G-E oil field specialists and G-E service at: Dallas, Denver, Houston, Kansas City, Oklahoma City, Tulsa, Los Angeles, San Francisco.

Apply the proper G-E motor and the correct G-E controller to a specific task, following the recommendations of G-E specialists in electric drive, and you have G-E Motorized Power.

Motorized Power
—fitted to every need

200-144

GENERAL ELECTRIC

GENERAL ELECTRIC COMPANY, SCHENECTADY, N. Y., SALES OFFICES IN PRINCIPAL CITIES

feet north and 150 feet west of the SE cor. of the south 60 acres of NW, Section 130, B. B. B. & C. Survey.

H. M. Pardee's No. 1 C. B. Snyder, 150 feet north and west of SE cor. of NW Section 137, B. B. B. & C. Survey.

Coleman County

B. L. Mollenkoff's No. 1 Mrs. R. M. Lowe, 1,789 feet north and 1,943 feet west of the most easterly southeast corner of the J. A. Wright Survey No. 747, A-704. Joe Cook and others' No. 1 Henry Beck, 1,020 feet north and 1,280 feet east of the SW cor. of the Henry Beck 506-acre tract out of the T. T. R. R. Survey No. 99, being 330 feet south and west of the NE cor. of their 50-acre lease. E. J. Cunningham and others' No. 2 G. W. and L. P. Jennings, midway north and south and 150 feet west of the east line of the west 94 acres of the G. W. and L. P. Jennings 190.37-acre tract out of the A. S. Lipscomb Survey No. 94. Ehorn and others' No. 1 Henry Beck, 330 feet north and 150 feet west of the SE cor. W half SE of the Henry Beck Survey No. 98, A-1,-625.

The Texas Company's No. 1 Sealy & Smith, 2,516 feet north and 150 feet west of SE cor. Section 1, Block 1, G. H. & H. Survey. Renee Oil Co.'s No. 1 Mrs. B. J. Walker, 990 feet south and west of NE cor. of E. J. Bonzano Survey No. 238.

Crane County

The Gulf Production Co.'s No. 48 J. T. McElroy, 1,442 feet south and 4,290 feet east of NW cor. of its lease out of Section 200, Block F, C. C. S. D. & R. G. N. G. R. R. Survey.

Cooke County

W. J. Green and others' No. 2 L. Campbell, 200 feet north and 1,050 feet east of the SW cor. of the L. Campbell tract out of the O. F. Leverett Survey, A-607. Hedrick-Camp Drilling Co.'s No. 1 Lynch-Stahl and others, 400 feet south and 150 feet west of the NE cor., Section 13, Thomas Scott Survey, A-900, being 150 feet south and west of the NE cor. of their 13-acre lease.

J. C. McFarland's No. 3 M. K. & T. Right of Way, 340 feet north and 335 feet west of the SE cor. of Block 89, Town of Muenster.

Concho County

Sartain Oil Co.'s No. 1 Evridge, 1,100 feet south and 2,250 feet east of the NW cor., Section 39, Block 70, H. & T. C. Survey.

Ector County

Shoup and others' No. 2 C. P. Davis, C Section 10, Block 42, Township 3 South, T. P. R. R. Survey.

Eastland County

Gulf Production Co.'s No. 1 J. W. Horn, 150 feet north and west of the SE cor. of their 50-acre lease out of Section 57, League 3 and 4, McLennan County School Land.

Dick Barkley and others' No. 3 A. L. Duffer, 1,700 feet south and 2,050 feet west of the NE cor. of Lot 13, McLennan County School Land, League 2, and located in Lot No. 5. Chestnut & Smith and others' No. 1 A. L. Duffer, 1,158 feet north and 2,250 feet east of SW cor. of south 100 acres of Lot No. 5, McLennan County School Land, League 2.

Lone Star Gas Co.'s No. 1 S. A. Anderson, 1,200 feet south and 250 feet west of the most northerly NE cor. of S. A. Anderson 56-acre tract out of V. Lonza Survey. Same company's No. 2 S. A. Anderson, 300 feet south and west of the most northly NE cor. of S. A. Anderson 56-acre tract out of V. Lonza Survey. Same company's No. 3 S. A. Anderson, 300 feet north and east of SW cor. of S. A. Anderson 80-acre tract out of J. W. Womack Survey.

Ed V. Parsons and others' No. 1 W. A. Howard, 300 feet north and east of SW cor. of Lot No. 12, McLennan County School Land, League 2. L. Teatsworth and others' No. 4 Citizens Water Works, 650 feet north and 520 feet east of SW cor. of Section 6, Block 6, E. T. R. R. Survey. H. H. Adams and others' No. 1 E. C. McClelland, 500 feet north and west of SE cor. of NE of Section 466, S. P. R. R. Survey.

Independent Oil & Gas Co.'s No. 3 G. H. Snider, 1,320 feet south and 50 feet west of the NE cor. of west 80 acres of NW of Section 46, Lavaca County School Lands. C. M. Root and others' No. 1 F. O. Stokes, 660 feet south and east of NW cor. NE Section 37, Block 4, H. & T. C.

Foard County

Marland Oil Co.'s No. 1 J. H. Minnick, C NE, Section 74, Block B, H. & T. C. Survey.

Howard County

Coyle-Concord Oil Co.'s No. 4 Dora Roberts, 1,470 feet south and 1,170 feet west of NE cor. Section 156, Block 29, W. & N. W. Survey. F. H. E. Oil Co.'s No. 2 Dora Roberts-B, 330 feet north and 990 feet west of SE cor. NW Section 137, Block 29, W. & N. W. Survey.

Jack County

Marland Oil Co. and Zoch's No. 1 T. H. Cherryholmes-A, 1,320 feet north and west of SE cor. of T. H. Cherryholmes 950-acre tract out of John Irvin Survey, A-313. Shaw & Rathke's No. 7 J. W. Cullers and others, 400 feet north and west of most easterly SE cor. of their 80-acre lease out of Section 4, S. P. R. R. Survey, A-2,188.

Montague County

Oil Operators Trust Co.'s No. 3 E. J. Bouldin, 819 feet north and 1,775 feet east of the SW cor. of the C. Chacon Survey, A-140.

Arco Oil Co.'s No. 3 S. F. Loy and others, 2,800 feet south and 750 feet west of NE cor. of Mrs. S. F. Loy and others' 210-acre tract out of William Donoho Survey, A-178, being 150 feet north and west of SE cor. of their 49.5-acre lease. R. I. Carter's No. 1 E. J. Bouldin, 150 feet north and 1,496 feet east of SW. cor. of C. Chacon Survey, A-140, being 150 feet north and 147.5 feet west of SE cor. of his 60-acre lease.

R. I. Carter and Rycade Oil Corp.'s No. 3 R. W. Cunningham and others, 150 feet south and 1,050 feet west of NE cor. of their 20-acre lease out of the L. B. Norton Survey, A-574. Same company's No. 4 R. W. Cunningham and others, 150 feet south and 884 feet east of NW cor. of the J. N. Hodges Survey, A-1,160, being 150 feet south and east of NW cor. of their 40-acre lease. Same company's No. 1 G. B. Heaton and others, 450 feet north and 150 feet west of SE cor. of the north 50 acres of the G. B. Heaton and others' 435.5-acre tract out of the O. Buchman Survey, A-73. Gulf Production Co.'s No. 13 R. W. Cunningham and others, 150 feet south and west of NE cor. of their 61.8-acre lease out of the J. N. Hodges Survey, A-1,160.

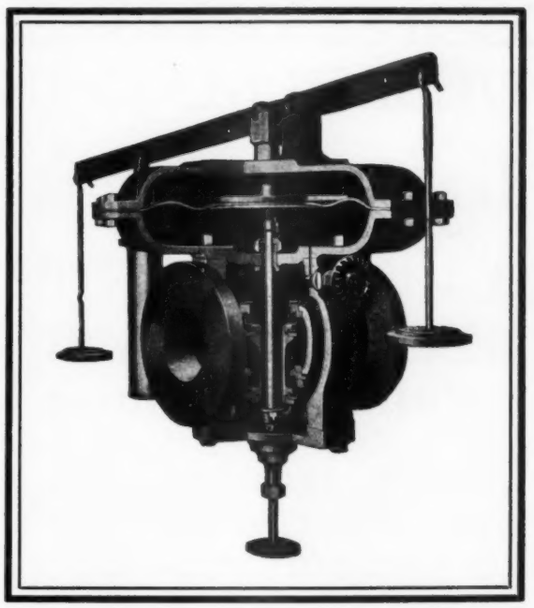
Continental Oil Co.'s No. 27 J. W. Maddox-A, 572 feet north and 3,700 feet east of SW cor. of the S. H. Arnold Survey, A-5, being 572 feet north and west of the most southerly SE cor. of its lease out of Lot No. 13. Petroleum Producers Co.'s No. 2 C. H. Howard, 150 feet north and 200 feet east of SW cor. of west 50 acres of south 100 acres of the C. H. Howard 220-acre tract out of the F. Robertson Survey, A-620. The Texas Company's No. 3 A. B. Hinton, 150 feet south and east of NW cor. of its 100-acre lease out of the A. B. Hinton 1,056-acre tract out of the Alex Coats Survey, A-129.

Palo Pinto County

Hill & Ritter's No. 1 John Doan, 150 feet southwest of the northeast line and 150 feet northwest of the southeast line of the northwest 40 acres of the southwest 200 acres of the P. Lout Survey, A-291.

Pecos County

Michaelson & Tabot's No. 1 Pecos River Bed, 45 feet north, 45 degrees west of the NW cor., Section 10, Block 9, H. & G. N. Survey, and located in the bed of the Pecos River. Mid-Kansas Oil & Gas Co.'s No. 16 I. G. Yates-A, 200 feet south and east of the most easterly NE cor., Section 31, Block 194, G. C. & S. F., and located in the I. G. Yates Survey, A-8,195. Same company's No. 17 I. G. Yates-A, 200 feet north and west of the most easterly NE cor., Section 31, Block 194, G. C. & S. F., and located in the I. G. Yates Survey, A-8,-195. Benedum & Trees' No. 1 B. T. Corder, 1,017 feet north and 2,352 feet west of the SE cor., Section 44, Block



The Most Effective Gas Pressure Regulation

THE Davis Improved Gas Pressure Regulator accurately handles reductions in pressure anywhere from 250 pounds down to any desired service pressure.

Add to this range the advantages of tightness in service, infrequent but easy maintenance, and simple installation, and you'll find that this regulator is the most effective means of controlling gas pressure.

The double-seated balanced disc seats against a soft leather or oil-proof rubber ring, keeping the regulator absolutely tight when closed. The entire valve and cage assembly can be replaced easily and quickly as a unit in the field, and the seat rings are easily replaced without disturbing other parts. The regulator needs no outside piping in putting it on the line, making it the simplest type of installation.

The Davis Gas Pressure Regulator is made in a full range of sizes to suit all needs. Our engineers will be glad to help you plan an efficient layout.

G. M. DAVIS REGULATOR COMPANY
409 Milwaukee Avenue,
CHICAGO, ILLINOIS

WESTCOTT & GREIS, Inc.
Sales Engineers:
TULSA LOS ANGELES DALLAS

Chicago Power Show, Booth 86.

Valve Makers for Over Fifty Years

DAVIS VALVE SPECIALTIES

O&GJ 2-16-Gray

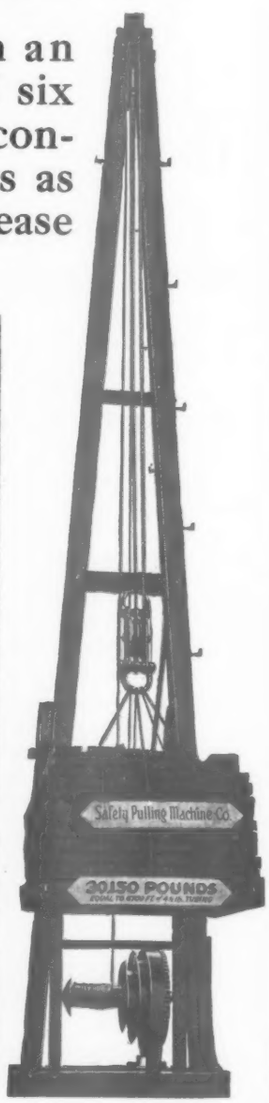
ECLIPSE DEEPWELL PULLING MACHINE

In use by one foreign Company alone, are over,

21—

Eclipse Deepwell Pulling Machines

Starting from an initial order of six this Company continually reorders as their needs increase



Specifications
DEEPWELL

Eclipse Deepwell up to 800 ft. 2" Tubing.
Weight 3645

Mast 8x10x36 ft., Douglass Fir A-Style Two Wheel Truck, two 16" Bronze bearing crown pulleys, 2½ Steel Pin mounted in malleable boxings. Large supporting plate 16" dia. between crown pulleys, eliminating any chance of bending pin.

Reel or Drum; 32 lb. 8¼ casing filled with concrete for winding drum, differentials banded with 3/16 band iron, brake surface 6"x40", choke brake style same as Star drilling machine.

The whole reel assembly is mounted on 2¾ square steel shaft extending clear through reel, secured by three heavy castings.

For Sale By All Supply Companies

Manufactured By—

SAFETY PULLING MACHINE CO.
INDEPENDENCE, KANSAS

2, C. C. S. D. & R. G. N. G. R. R. Survey.

Marland Oil Co.'s No. 11 I. G. Yates-A, 1,906 feet north and 3,254 feet east of the SW cor. of the east 320 acres of Section 60, Block 1, I. & G. N. Survey. Same company's No. 12 I. G. Yates-A, 2,147 feet north and 2,651 feet east of SW cor. of east 320 acres of Section 60, Block 1, I. & G. N. Survey. Same company's No. 13 I. G. Yates-A, 300 feet north and 4,800 feet east of SW cor. of east 320 acres of Section 60, Block 1, I. & G. N. Survey. Mid-Kansas Oil & Gas Co.'s No. 13 Smith-Taylor, 1,169 feet south and 990 feet east of NW cor. of Section 33, Block 194, G. C. & S. F. Survey. Pandem Oil Corp. and Gibson Oil Corp.'s No. 14 Pecos River Bed, 408 feet south and 1,656 feet east of SE cor. of Section 61, Block 1, I. & G. N. Survey and located in the bed of the Pecos River. Same corporation's No. 15 Pecos River Bed, 716 feet south and 1,703 feet east of SE cor. of Section 61, Block 1, I. & G. N. Survey, and located in the bed of the Pecos River.

Runnels County

Globe Petroleum Co.'s No. 1 J. H. Webb, 500 feet south and west of the NE cor. of the R. A. Smith Survey No. 2. J. H. McLean and others' No. 1 G. W. Clayton, 150 feet south and 270 feet east of the NW cor., Section 135, E. T. R. R. Survey.

Reagan County

Roxana Petroleum Corp.'s No. 1 Sawyer Cattle Co., 3,000 feet south of the center of the north line of Section 15, Block A, R. Casey Survey.

Reeves County

Grisham-Hunter Corp.'s No. 1 Rathje & Conner, 660 feet southeast of the northwest line and 5,760 feet northeast of the southwest line of Section 26, Block 2, H. & G. N. Survey.

Shackelford County

Big State Oil Co.'s No. 4 Russ-Webb, 150 feet south and west of NE cor. of Section 27, Block 11, T. & P. R. R. Survey. Forsythe & Choate's No. 1 J. A. Isbell, 150 feet southwest of the northeast line and 150 feet southeast of the northwest line of the southeast 20 acres of the southwest 142.8 acres of Section 818, T. E. & L. Survey. Same company's No. 2 J. A. Isbell, 150 feet northwest of the southeast line and 150 feet southwest of the northeast line of the southeast 20 acres of the southwest 142.8 acres of Section 818, T. E. & L. Survey.

Forsythe & Choate and others' No. 1 M. E. Sidebottom, 150 feet southwest of the northeast line and 150 feet southeast of the northwest line of the southeast 100 acres of the northwest 187.5 acres of Section 818, T. E. & L. Harry Shulman and others' No. 1 J. A. Isbell, 1,250 feet northwest of the southeast line and 750 feet northeast of the southwest line of the southeast 120 acres of the northeast 177.2 acres of Section 818, T. E. & L. A. J. Hughes and others' No. 1 L. H. Hill, 150 feet south and east of the NW cor. of the SE of Section 40, Blind Asylum Lands.

Kingwood Oil Co.'s No. 2 L. G. Gorsuch, 220 feet south and east of the NW cor of the SW of Section 82, Block 13, T. & P. R. R. Same company's No. 3 L. G. Gorsuch, 220 feet south and east of the NW cor. of the SE of Section 81, Block 13, T. & P. R. R. John McGee's No. 1 J. K. Elliott, 150 feet south and east of the NW cor. of the NE of the SW of Section 9, Lunatic Asylum Lands. Nash & Windfohr's No. 1 R. J. Moberly, 476 feet north and 150 feet east of the SW cor. of the S half of SE of Section 13, Block 11, T. & P. R. R. Roeser & Pendleton's No. 68 W. I. Cook-A, Section 60, 1,196 feet north and 1,950 feet west of the SE cor. of W half of the W. I. Cook tract in Section 59, and located in Section 60, Block 10, E. T. R. R.

Regal-Forsythe & Choate's No. 1 J. A. Isbell, 150 feet northwest of the southeast line and 150 feet southwest of the northeast line of the northwest 81.5 acres of the southeast 101.5 acres of the southwest 142.8 acres of Section 818, T. E. & L. Same company's No. 2 J. A. Isbell, 450 feet southeast of the northwest line and 150 feet southwest of the northeast line of the northwest 81.5 acres of the southeast 101.5 acres of the southwest 142.8 acres of Section 818, T. E. and L. H. Shulman and others' No. 2 J. A. Isbell, 1,550 feet northwest of the southeast line and 750 feet northeast of the southwest line of the southeast 120 acres of the northeast 177.2 acres of Section 818, T. E. & L. Same company's No. 3 J. A. Isbell, 1,250 feet northwest of the southeast line and 1,050 feet northeast of the southwest line of the southeast 120 acres of the northeast 177.2 acres of Section 818, T. E. & L.

Same company's No. 4 J. A. Isbell, 750 feet northwest of the southeast line and 150 feet northeast of the southwest line of the southeast 120 acres of the northeast 177.2 acres of Section 818, T. E. & L. Same company's No. 5 J. A. Isbell, 1,850 feet northwest of the southeast line and 950 feet southwest of the northeast line of the southeast 120 acres of the northeast 177.2 acres of Section 818, T. E. & L. Same company's No. 6 J. A. Isbell, 1,400 feet northwest of the southeast line and 450 feet northeast of the southwest line of the southeast 120 acres of the northeast 177.2 acres of Section 818, T. E. & L. Same company's No. 7 J. A. Isbell, 750 feet northeast of the southwest line and 750 feet northwest of the southeast line of the southeast 120 acres of the northeast 177.2 acres of Section 818, T. E. & L.

J. K. Simmon's No. 3 B. C. Harvey, 200 feet south and west of the NE cor. of Section 5, Block 14, T. & P. R. R. Texas Consolidated Oil Co.'s No. 1 J. A. Isbell-A, 150 feet northwest of the southeast line and 300 feet northeast of the southwest line of the northwest 57.2 acres of the northeast 177.2 acres of Section 818, T. E. & L. Same company's No. 1 J. A. Isbell-B, 402 feet northwest of the southeast line and 573 feet southwest of the northeast line of the northwest 41.3 acres of the southwest 142.8 acres of Section 818, T. E. & L.

Texas Consolidated Oil Co.'s No. 2 J. A. Isbell-B, 150 feet northwest of the southeast line and 750 feet southwest of the northeast line of the northwest 41.3 acres of the southwest 142.8 acres of Section 818, T. E. & L. Survey. Same company's No. 3 J. A. Isbell-B, 393 feet northwest of the southeast line and 382 feet southwest of the northeast line of the northwest 41.3 acres of the southwest 142.8 acres of Section 818, T. E. & L. Survey. Same company's No. 4 J. A. Isbell-B, 702 feet northwest of the southeast line and 423 feet southwest of the northeast line of the northwest 41.3 acres of the southwest 142.8 acres of Section 818, T. E. & L. Survey. Same company's No. 5 J. A. Isbell-B, 702 feet northwest of the southeast line and 723 feet southwest of the northeast line of the northwest 41.3 acres of the southwest 142.8 acres of Section 818, T. E. & L. Survey.

Stephens County

John R. Eidson and others' No. 3 J. H. Houston, 330 feet north and west of the SE cor. of the W half of Section 32, Block 6, T. & P. R. R. Survey. Texas Fidelity Oil Co.'s No. 3 J. M. Cook, 700 feet south and east of the NW cor. of Section 26, Block 6, T. & P. R. R. Survey. Texas Pacific Coal & Oil Co.'s No. 72 Charles Binney, 800 feet north and 900 feet east of the SW cor. of Section 76, Block 4, T. & P. R. R. Survey. J. L. Thompson's No. 1 J. M. Cook, 350 feet south and 850 feet west of the NE cor. of the N half of NW of Section 45, Block 6, T. & P. R. R. Survey.

Terrell County

Miller Brothers' No. 1 Allison & Burke, C of NW of Section 10, Block 176, Texas & Mexico R. R. Survey.

Tom Green County

World Oil Co.'s No. 1 Mrs. F. T. March, 990 feet north and east of the SW cor. of Section 33, Block 4, H. & T. C. Survey. Same company's No. 1 M. B. Pulliam-B, 990 feet south and 1,650 feet west of the NE cor. of Section 25, Block 4, H. & T. C. Survey.

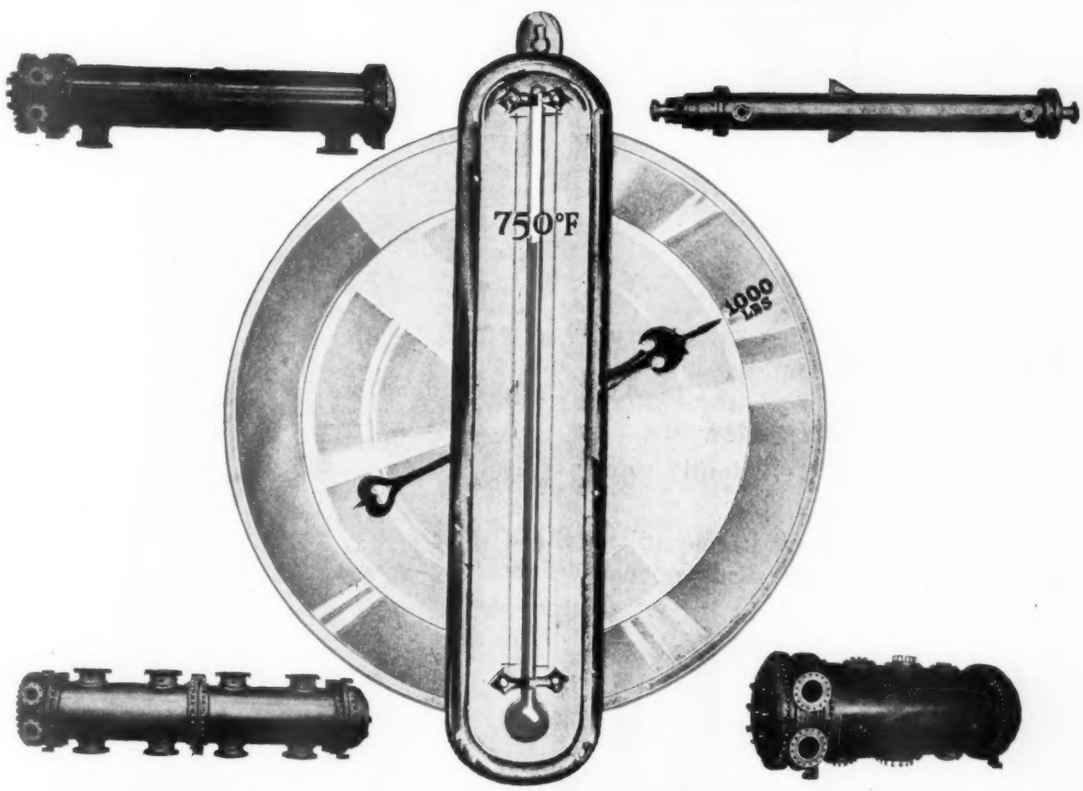
Wichita County

Holbrook & Wood's No. 1 Kemp & Kempner, 1,701 feet south and 750 feet west of the NE cor. of Section 82, Kemp Wichita Valley Land. Same company's No. 2 Kemp & Kempner, 1,700 feet south and 1,048.5 feet west of the NE cor. of

BRAUN

HIGH PRESSURE • HIGH TEMPERATURE

EXCHANGERS



FOR ALL SERVICES

C. F. BRAUN & CO.

MANUFACTURING MECHANICAL ENGINEERS

ALHAMBRA - CALIFORNIA

TULSA DALLAS NEW YORK

BRAUN

The Logical Unit

WHEREVER steam is used in the oil field for drilling or pumping, the logical equipment for boiler feeding is the *Penberthy High Pressure Automatic Injector.*

It is built to operate efficiently under typical oil field conditions.

The Penberthy Injector is easy to install, easy to use, and requires practically no maintenance.

PENBERTHY PRODUCTS

PENBERTHY INJECTOR COMPANY

Established 1886

DETROIT

New York Office
71 Beekman St.

Canadian Plant
Windsor, Ontario

Section 82, Kemp Wichita Valley Land. Same company's No. 3 Kemp & Kempner, 1,701 feet south and 1,515 feet west of the NE cor. of Section 82, Kemp Wichita Valley Land. Same company's No. 4 Kemp & Kempner, 1,766 feet south and 1,347 feet west of the NE cor. of Section 82, Kemp Wichita Valley Land. Same company's No. 5 Kemp & Kempner, 1,676 feet south and 1,615 feet west of the NE cor. of Section 82, Kemp Wichita Valley Land. Same company's No. 6 Kemp & Kempner, 1,770 feet south and 1,883 feet west of the NE cor. of Section 82, Kemp Wichita Valley Land Same company's No. 7 Kemp & Kempner, 1,770 feet south and 450 feet west of the NE cor. of Section 82, Kemp Wichita Valley Land. Same company's No. 8 Kemp & Kempner, 1,770 feet south and 150 feet west of the NE cor. of Section 82, Kemp Wichita Valley Land. Same company's No. 9 Kemp & Kempner, 1,376 feet south and 1,410 feet west of the NE cor. of Section 82, Kemp Wichita Valley Land. Same company's No. 10 Kemp & Kempner, 1,126 feet south and 1,410 feet west of the NE cor .of Section 82, Kemp Wichita Valley Land. Same company's No. 11 Kemp & Kempner, 1,376 feet south and 1,710 feet west of the NE cor. of Section 82, Kemp Wichita Valley Land. Same company's No. 12 Kemp & Kempner, 876 feet south and 1,410 feet west of the NE cor. of Section 82, Kemp Wichita Valley Land. Same company's No. 13 Kemp & Kempner, 1,076 feet south and 1,710 feet west of the NE cor. of Section 82, Kemp Wichita Valley Land. Same company's No. 14 Kemp & Kempner, 776 feet south and 1,710 feet west of the NE cor. of Section 82, Kemp Wichita Valley Land. Same company's No. 15 Kemp & Kempner, 1,701 feet south and 2,151 feet west of the NE cor. of Section 82, Kemp Wichita Valley Land. E. L. Lewis' No. 1 Sam Kelly, 2,134 feet north and 2,115 feet east of the SW cor. of Section 297, Waggoner Colony Subdivision, A-199. Magnolia Petroleum Co.'s No. 12 J. A. Watkins, 1,505 feet south and 150 feet east of the NW cor. of their 24.5-acre lease out of Section 46, Kemp Wichita Valley Land. Perkins & Cullum's No. 1-A Beaver Electra Royalty and others', 150 feet north and 200 feet east of the SW cor. of their 33-acre lease out of Section 11, H. T. & B., A-136.

Dale Oil Corp.'s No. 6 Kemp & Kempner-B, 450 feet south and 150 feet east of the NW cor. of the E half of Section 17, Kemp Wichita Valley Lands. G. S. Dudley's No. 4 Kemp & Kempner, 480 feet south and 1,150 feet east of the NW cor. of Section 18, Kemp Wichita Valley Lands. Grayce Oil Co. and J. H. Cottom's No. 3 Kemp & Kempner, 106 feet south and 212 feet west of the NE cor. of Lot 2, Block 82, Kemp Wichita Valley Lands. Same company's No. 4 Kemp & Kempner, 106 feet south and 543 feet west of the NE cor. of Lot 2, Block 82, Kemp Wichita Valley Lands. Same company's No. 5 Kemp & Kempner, 106 feet south and 847 feet west of the NE cor. of Lot No. 2, Block 82, Kemp Wichita Valley Lands.

Grayce Oil Co. and J. H. Cottom's No. 6 Kemp & Kempner, 106 feet south and 1,158.5 feet west of the NE cor. of Lot No. 2, Block 82, Kemp Wichita Valley Lands. Same company's No. 8 Kemp & Kempner, 106 feet south and 1,758.5 feet west of the NE cor. of Lot No. 2, Block 82, Kemp Wichita Valley Lands. Same company's No. 7 Kemp & Kempner, 106 feet south and 1,458.5 feet west of the NE cor. of Lot No. 2, Block 82, Kemp Wichita Valley Lands. Same company's No. 11 Kemp & Kempner, 318 feet south and 700 feet west of the NE cor. of Lot No. 2, and located in Lot No. 3, Block 82, Kemp Wichita Valley Lands. Same company's No. 12 Kemp & Kempner, 318 feet south and 1,000 feet west of the NE cor. of Lot No. 2, and located in Lot No. 3, Block 82, Kemp Wichita Valley Lands. Same company's No. 13 Kemp & Kempner, 318 feet south and 1,300 feet west of the NE cor. of Lot No. 2, and located in Lot No. 3, Block 82, Kemp Wichita Valley Land. Same company's No. 14 Kemp & Kempner, 318 feet south and 400 feet west of the NE cor. of Lot No. 2, and located in Lot No. 3, Block 82, Kemp Wichita Valley Lands. L. P. Hammond's No. 1 B. N. Ferguson, 150 feet south and 750 feet east of the most northerly NW cor. of D. L. & C. Survey, A-712. Same company's No. 2 B. N. Ferguson, 450 feet south and 720 feet east of the most northerly NW cor. of D. L. & C. Survey, A-712. Same company's No. 1 T. J. and J. L. Waggoner, 200 feet north and west of the NE cor. of Lot No. 7, H. George Survey, A-454. W. H. Hammon and others' No. 6 S. H. McCarty-C, 800 feet south and 850 feet west of the NE cor. of their lease "C" out of the W. R. Eaves Survey, A-447. J. C. Jennings and others' No. 1 T. L. Burnett and others, 150 feet north and east of the SW cor. of Section 9, H. T. & B Survey, A-135.

Wilbarger County

Barkley & Meadows' No. 2 W. T. Waggoner-A, 615 feet north and 205 feet east of the SW cor. of SE of SW of Section 24, Block 4, H. & T. C. Survey. E. B. Lawson's No. 2 W. T. Waggoner-A, 660 feet north and 205 feet west of the SE cor. of the SW of the SE of Section 25, Block 4, H. & T. C. Survey. Petroleum Producers Co. and others' No. 3 W. T. Waggoner-A, 200 feet south and east of the NW cor. of the NE of the NE of Section 16, Block 4, H. & T. C. Survey. Same company's No. 4 W. T. Waggoner-A, 200 feet south and west of the NE cor. of Section 16, Block 4, H. & T. C. Survey. Staley-Wynne & Co.'s No. 1 W. T. Waggoner, Section 25, 205 feet north and west of the SE cor. of the NW of the SE of Section 25, Block 4, H. & T. C. Survey. The Texas Company's No. 3 R. L. Castleberry-B, 1,550 feet south and 1,350 feet west of the NE cor. of Section 66, Block 14, H. & T. C. Survey. Tower & McKanna, Inc.'s No. 2 W. T. Waggoner, 490 feet south and 190 feet west of the NE cor. of the west 80 acres of the south 160 acres of the north 240 acres of the east 320 acres of Section 30, Block 4, H. & T. C. Survey.

Winkler County

Atlantic Oil Producing Co. & J. D. Collett's No. 2 T. G. Hendrick-F, 330 feet south and east of the NW cor. of Section 40, Block 26, School Land. Magnolia Petroleum Co.'s No. 8 Ida Hendrick, 2,310 feet south and 1,650 feet west of the NE cor. of Section 29, Block B-5, School Land. Southern Crude Oil Purchasing Co.'s No. 2 Ida Hendrick, T-88-A, 2,310 feet south and 990 feet west of the NE cor. of Section 44, Block 26, School Land.

Humble Oil & Refining Co.'s No. 7 Grisham-Hunter, 1,650 feet south and 2,310 feet west of the NE cor. of Section 34, Block B-5, School Land. Same company's No. 8 Grisham-Hunter, 990 feet south and 2,310 feet west of the NE cor. of Section 34, Block B-5, School Land. Gulf Production Co.'s No. 11 T. G. Hendricks, Tract-A, 990 feet north and 330 feet west of the SE cor. of the NW of Section 34, Block B-5, School Land. Same company's No. 12 T. G. Hendricks, Tract A, 990 feet south and 330 feet west of the NE cor. of the NW of Section 34, Block B-5, School Land. Same company's No. 13 T. G. Hendricks, Tract C, 330 feet north and east of the SW cor. of the NW of Section 40, Block B-5, School Land. Independent Oil & Gas Co.'s No. 4 Grisham-Hunter-B, 2,310 feet south and 1,650 feet east of the NW cor. of Section 41, Block B-5, School Land. Magnolia Petroleum Co.'s No. 7 Ida Hendrick, 1,650 feet south and west of the NE cor. of Section 29, Block B-5, School Land. Roxana Petroleum Corp.'s No. 3 Grisham-Hunter-D, 2,310 feet south and 330 feet west of the NE cor. of Section 41, Block B-5, School Land. Same corporation's No. 1 Grisham-Hunter-E, 2,310 feet north and 330 feet of the SW cor. of Section 40, Block B-5, School Land. Southern Crude Oil Purchasing Co.'s No. 1 T. G. Hendricks, T-67-3-B, 330 feet north and east of the SW cor. of Section 33, Block 26, School Land. Same company's No. 2 Ida Hendricks, T-67-B, 330 feet south and east of the NW cor. of the E half of the SE of Section 44, Block 26, School Land. The Texas Company's No. 4 Grisham-Hunter, 2,310 feet north and 990 feet east of the SW cor. of Section 41, Block B-5, School Land. Same company's No. 5 Grisham-Hunter, 2,310 feet north and

WHEN RESULTS COUNT
SPECIFY GENUINE "TOLEDOS"

When you face the hard job and results count, use genuine "TOLEDO" tools to cut or thread the pipe and you are assured satisfaction.

No threading tool has ever proven more popular in the oil or gas fields than the genuine "TOLEDO" No. 1A ratchet tool for threading 1" to 2" pipe.

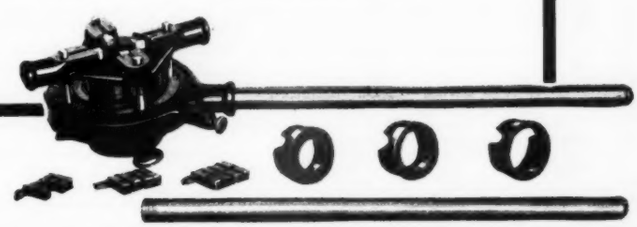
Its simple construction and ease of operation appeals to oil field workers. Its adjustment for over or under size as well as standard threads is easily and quickly made, which always assures the operator tight joints. The "TOLEDO" easy-cutting dies produce smooth perfectly tapered threads with a minimum amount of labor.

There are no better threading tools made than genuine "TOLEDO'S" for any size pipe. There is none better than a genuine "TOLEDO" No. 1A for threading 1" to 2" pipe. Insist upon genuine "TOLEDO'S" bearing this trademark and assure yourself satisfaction.

TRADE-MARK

INSIST ON THIS MARK

THE TOLEDO PIPE THREADING MACHINE CO. TOLEDO, OHIO
NEW YORK OFFICE, 72 LAFAYETTE ST.



LUNKENHEIMER
Iron Body Bronze Mounted
GATE VALVES

are ideally suited for the many classes of service in the oil and gas industry where really high grade gate valves are required to control the flow of oil, gas, steam and liquids without wasteful and hazardous leakage.
In the interest of increased operating efficiency, every user of gate valves should investigate the merits of these superior valves.

Gate Valve Book No. 511-JA, illustrates and describes the complete line in detail. A copy will be sent upon request, without obligation. Write for your copy now.

THE LUNKENHEIMER CO.
"QUALITY"
CINCINNATI, OHIO, U.S.A.
NEW YORK CHICAGO BOSTON PITTSBURGH
SAN FRANCISCO NEW ORLEANS
LONDON
EXPORT DEPT. 129-135 LAFAYETTE ST., NEW YORK

6-54-91

Type "M-2-S" Rig Lighting Unit

gives you plenty of light

THE larger capacity of Pyle-National Type M-2-S means that you can have all the lights necessary for any job without any troubles. Type M-2-S carries a big load without a flicker, and without any attention other than occasional oiling.

This powerful, compact unit will carry two 500 watt floodlights and thirty 50 watt lamps besides. This means that you can have two good-sized floodlights for general lighting and as many small lamps as the ordinary unit will carry besides.

Send for bulletins describing Type M-2-S in detail.

The Pyle-National Company

1334-1358 N. Kostner Avenue, Chicago, Ill., U. S. A.

Direct Factory Representative

C. T. TEWKESBURY, 123 E. Jasper St., Tulsa, Okla.

Canadian Agents: The Holden Company, Ltd., Montreal, Winnipeg, Vancouver, Toronto

Export Department: International Railway Supply Company, 30 Church Street, New York City

O&GJ 2-16 Gray

[Economical the year 'round]

WICCAPEE

DRIVER and DRILLER

BELTS

volley

NYARCO

TRADE MARK

ROTARY DRILL

HOSE

This hose is especially made for oil well use, constructed of highest grade materials insuring the greatest flexibility and economy in drilling.

Balata Pump Valves

volley

NEW YORK RUBBER CORP.

Established 1851

BEACON, N. Y.

New York Office — 25 West 43rd Street

1,650 feet east of the SW cor. of Section 41, Block B-5, School Land.

Young County

A. W. Johnston's No. 1 J. R. Garvey, 150 feet south and 2,030 feet east of the NW cor. of Section 1857, T. E. & L. Godley Oil Co.'s No. 3-A, M. K. Graham, 200 feet south and 129 feet west of the NE cor. of their 40-acre lease out of the S. Tankersley Survey, A-278. Mid-Tex Oil & Gas Co.'s No. 3 Childress & Donnell, 650 feet northeast of the southwest line and 692 feet southeast of the northwest line of the J. A. Morgan Survey, A-1817. Paull Oil Co.'s No. 1 Eddleman Brothers Saddle Co., 200 feet southeast of the northwest line and 200 feet southwest of the northeast line of the southeast 168.2 acres of Section 2692, T. E. & L., A-1131. E. C. Stovall's No. 9 E. C. Stovall, 7,600 feet south and 1,150 feet east of the NW cor. of the James Tobin Survey, A-279, being 160 feet north of the Brazos River. H. L. Tidwell, Trustee No. 1 Costello Brothers-C, 900 feet northeast of the southwest line and 1,000 feet southeast of the northwest line of Lot 5, J. M. Johnson Survey, A-161.

Panhandle Refining Co. and others' No. 1 P. K. Pittman, 150 feet south of the SW cor. of the J. L. Elmore Survey, A-1,421, and located in the W. Mathews Survey, A-1,484. Rannell Oil Co.'s No. 2 J. W. Jack-C, 450 feet north and 150 feet east of the SW cor. of the NE of Section 23, Young County School Land, A-1,284. Wichita Production Co.'s No. 3 J. R. Wilson, 200 feet north and 1,050 feet west of the SE cor. of the north 30 acres of the SW of Section 162, T. E. & L. C. C. Williams and others' No. 1 A. C. Casey, 150 feet south and west of the NE cor. of the south 46 acres of the west 86 acres of the south 166 acres of Section 1,486, T. E. & L.

CORRECTED LOCATIONS

Coleman County

Gracey & Ehorn's No. 1 Henry Beck, 1,506 feet north and 4,989 feet west of the SE cor. of the H. Beck 506-acre tract out of Section 99, T. T. R. R. Survey.

Shackelford County

Forsythe & Choate and others' No. 1 M. E. Sidebottom, 150 feet southwest of the northeast line and 150 feet southeast of the northwest line of the southeast 100 acres of the northwest 187.5 acres of Section 819, T. E. & L.

In Brown County: Westbrook and others' No. 2 F. Turner, 450 feet north and west of the SE cor. of the NE of Section 46, H. T. & B.

In Cal'ahan County: Prairie Oil & Gas Co.'s No. 1 E. E. Baum, 150 feet north and west of the SE cor. of the east 25 acres of the N half of the E. E. Baum tract out of the G. M. Vigal Survey No. 798. Same company's No. 2 E. E. Baum, 150 feet north and east of the SW cor. of the east 25 acres of the N half of the E. E. Baum tract out of the G. M. Vigal Survey No. 798.

In Carson County: Empire Gas & Fuel Co.'s No. 1 S. B. Burnett Estate, 1320 feet north and east of the SW cor. of Section 55, Block 4, I. & G. N.

In Crockett County: Osage Oil Corp. and others' No. 2 H. M. Halff, 757 feet south and 1,988 feet east of the SE cor. of Section 61, Block 1, I. & G. N. Survey, Pecos County, and located in Section 70, Block 1, I. & G. N. Survey, Crockett County.

In Grayson County: Simpson-Fell Oil Co.'s No. 1 G. W. Wall, 927 feet south and 1,700 feet west of the NE cor. of the G. R. Reeves Survey, A-1,015. Same company's No. 2 G. W. Wall, 880 feet south and 1,213 feet west of the NE cor. of the G. R. Reeves Survey, A-1,015.

In Montague County: Atlantic Oil Producing Co.'s No. 1 W. W. Jones, 150 feet south and west of the NE cor. of the east 50 acres of the north 80 acres of the south 160 acres of the W. W. Jones 251.5-acre tract out of Lot No. 3, J. W. Jones Subdivision, William Donoho Survey, A-178.

In Shackelford County: Roeser & Pendleton's No. 1 W. I. Cook-A, Section 61, 150 feet south and west of the NE cor. of the SE of the SW of Section 61, Block 10, E. T. R. R.

Atlantic Receipts Less; Little Change In Supply Sources

By N. O. Fanning

NEW YORK, Feb. 11.—Receipts of crude and refined oil at Atlantic Coast ports by tanker during January are estimated at 17,155,000 bbls., a daily average of 552,000 bbls., compared with 18,489,000 bbls., or 596,000 bbls. a day in December, and 16,912,000 bbls., or 545,000 bbls. a day, in January, 1927.

The January receipts show little change compared with December in the sources from which the oil came. There was a substantial increase in receipts from the Port Arthur district, amounting to 790,000 bbls., but a decline of 586,000 bbls. in the receipts from the Houston district.

Imports from South America, including Venezuela, Colombia, Peru, Ecuador and Trinidad, fell off slightly from the peak established in December. They amounted to 4,238,000 bbls., against a December record of 4,498,000 bbls. The daily average for January was 137,000 bbls., compared with 146,000 bbls. for December. However, it can be noted that the January total was 2,372,000 bbls., or 127 per cent, greater than that for January of last year.

The following table estimated receipts of crude and refined oil at Atlantic Coast ports by tanker for January, 1928, December, 1927, and January, 1927 (figures in barrels):

	Jan.,'28	Dec.,'27	Jan.,'27
Baton Rouge and New Orleans	1,185,000	1,487,000	2,077,000
Port Arthur, Sabine and Beaumont	5,033,000	4,243,000	4,738,000
Texas City, Houston and Galveston	4,043,000	4,629,000	4,471,000
Corpus Christi	294,000	360,000	.....
Gulf Coast	10,555,000	10,719,000	11,286,000
Pacific Coast	1,500,000	2,119,000	2,218,000
So. America	4,238,000	4,498,000	1,866,000
Mexico	862,000	1,153,000	1,542,000
Total	17,155,000	18,489,000	16,912,000
Daily Averages			
	Jan.,'28	Dec.,'27	Jan.,'27
Baton Rouge and New Orleans	38,000	48,000	67,000
Port Arthur, Sabine and Beaumont	162,000	137,000	153,000
Texas City, Houston and Galveston	130,000	149,000	142,000
Corpus Christi	10,000	11,000	.....
Gulf Coast	340,000	345,000	362,000
Pacific Coast	48,000	68,000	72,000
So. America	137,000	146,000	61,000
Mexico	27,000	37,000	49,000
Total	552,000	596,000	545,000

Imports from the countries in the South American group for January and December follows (figures in barrels):

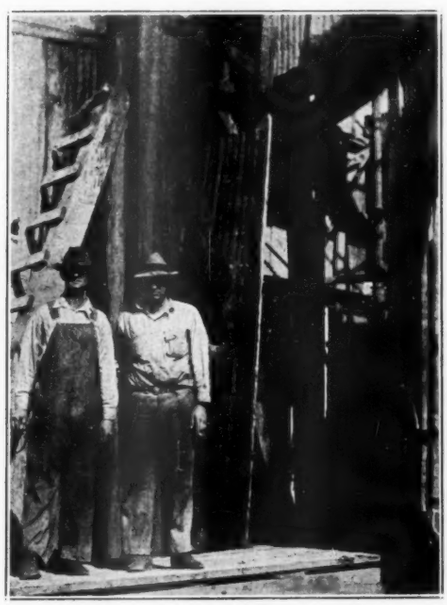
	Jan.,'28	Dec.,'27
Venezuela	3,101,000	3,216,000
Colombia	832,000	991,000
Trinidad	168,000	168,000
Peru	90,000	76,000
Ecuador	47,000	47,000
Total	4,238,000	4,498,000

The figures for Venezuela include imports from Curacao and Aruba, all this oil having its origin in Venezuela. Curacao is the shipping point for the Dutch-Shell combine and Aruba for the Pan American Petroleum & Transport Co. Both are Dutch possessions.

TEXAS EMERGENCY TAX

Texas now has a 3-cent gasoline tax, 1 cent of which was termed an emergency tax and was to be repealed on September 1 of this year but various agencies are now active in trying to justify the continuation of the tax. The Highway Club of Texas advocates a bond issue of $1,000,000 to be retired by this added 1-cent tax were it left in effect. The purpose of the club is to connect the cardinal state highways into a continuous system, leaving the counties to add such additional roads or improvements as needed to meet the local conditions, the counties to get their money from automobile taxes, and road and bridge taxes.

HAZARD WIRE LINES



MR. J. E. WILLOUGHBY (in oval), *Production Supt., Texan Oil and Land Co.*

At left, *W. H. CLIFTON, Driller.*
L. H. LUNSFORD, Tool Dresser.

The First Hundred Days are the Hardest

Hazard 7/8" Drilling Line used on No. 1-B Well, drilled by the Texan Oil and Land Co. in constant use 100 days when these photos were taken. The total depth of hole was 6582 feet, straight reaming 5975 feet.

Hazard Wire Lines Give Exceptionally Good Service

HAZARD WIRE ROPE COMPANY

WILKES-BARRE, PENNA.
1625 South Troost Ave., TULSA

New York Pittsburgh Chicago Denver Los Angeles San Francisco New Orleans

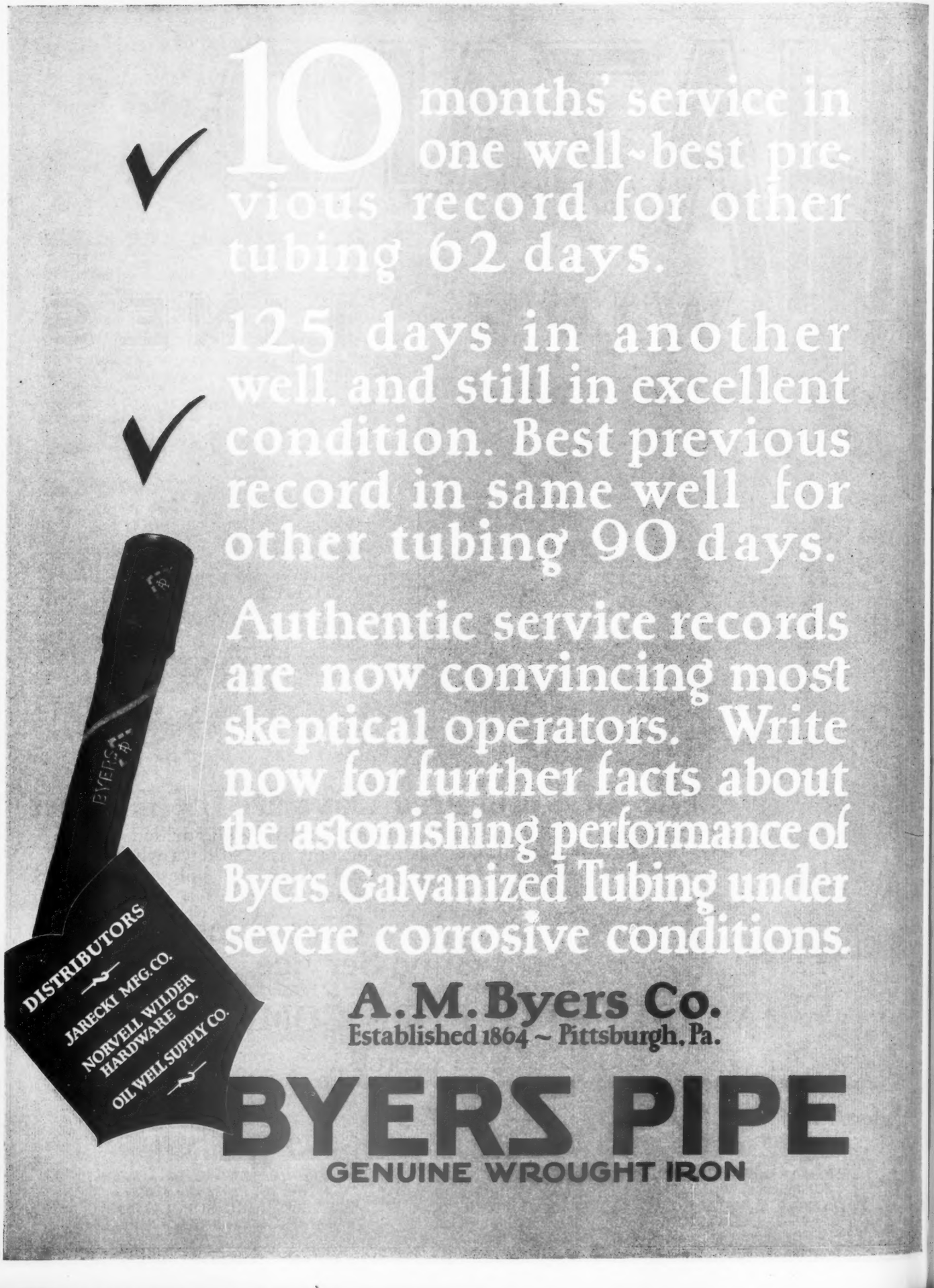
Distributors in the Eastern Fields
CROTTY & CO.
Parkersburg, W. Va.
PRICHARD SUPPLY CO.
Mannington, W. Va.
DANSER SUPPLY CO.
Weston, W. Va.

Distributors in California
UNITED OIL WELL & SUPPLY CO.
Los Angeles

Distributors in Wyoming-Colorado
GREAT NORTHERN TOOL AND SUPPLY CO.
Billings, Mont.

Distributors in Texas
LONGHART SUPPLY CO.
619 Petroleum Bldg., Fort Worth, Texas

Distributors in Oklahoma, Kansas, and the Panhandle of Texas
BOVAIRD SUPPLY CO.
904 Mid-Continent Bldg., Tulsa, Okla.


10 months' service in one well—best previous record for other tubing 62 days.
125 days in another well and still in excellent condition. Best previous record in same well for other tubing 90 days.
Authentic service records are now convincing most skeptical operators. Write now for further facts about the astonishing performance of Byers Galvanized Tubing under severe corrosive conditions.
DISTRIBUTORS
JARECKI MFG. CO.
NORVELL WILDER HARDWARE CO.
OIL WELL SUPPLY CO.
A. M. Byers Co.
Established 1864 ~ Pittsburgh, Pa.
BYERS PIPE
GENUINE WROUGHT IRON

CANADIAN FIELDS

(Continued from Page 55)

Co. drilling a deep test and probably opening up much larger gas flows than have heretofore been developed in the shallow sands, and incidentally proving the existence of this gas, the Northwestern Utilities has contracted to buy gas developed by us, and several of the local land owners have pooled their rights with the Hudson's Bay company lands, and we are planning to drill these lands also and market the gas to the gas company."

Skiff Field

In the border fields, southern Alberta, interest is largely centered on the results to be secured from Devenish Petroleum's No. 1, LSD 5, Section 27-5-14w4, in the Skiff Field. The well was for a short time on the pump with an indicated production of 20 bbls. an hour, but stopped pumping when the apparatus become clogged with sand. Since then the crew have been pulling and resetting the casing. An official statement of an analysis of the Skiff heavy crude by the Kansas City Testing Laboratories shows the following results:

		Per cent
Naphtha gasoline	54.5 Baume	15
Kerosene	37.0 Baume	10
Gas oil	29.8 Baume	10
Wax distillate	23.2 Baume	25
Residue, asphalt		40

The gravity of the Skiff crude is 20.3, comparing with 14 0 gravity of the heavy Wainwright crudes. In reporting on the analysis the Kansas City Testing Laboratories state: "The summary shows the natural products which can be obtained by ordinary skimming distillation from this crude oil. It would be possible to vary the operation so that the fuel oil bottoms can be produced from the oil instead of asphalt and wax distillate. It would also be possible to increase the yields of naphtha and produce gasoline by cracking."

It is announced that the first two wells to be drilled this spring by Imperial Oil, Ltd., under its arrangement with Devenish Petroleum, Ltd., will be located 140 feet structurally higher than No. 1, when it is hoped to strike larger quantities of lighter crude.

Flat Coulee

The recent strike in the Flat Coulee well of the Sunburst Oil & Refining Co. in the Sweetgrass Hills section of Montana has resulted in considerable filing on the Alberta end of the Flat Coulee structure. William J. O'Haire of Sunburst is reported to have filed on between 4,000 and 6,000 acres of the most promising portion of the Alberta section. The filing was made at the Lethbridgt land office. The Flat Coulee well is approximately 2 miles south of the international boundary. A recent report indicates that the Flat Coulee is still drilling and that another show of oil, amounting to a heavy spray when carried out of the top of the casing by gas, had been struck at the base of a 27-foot sand entered at 2,878 feet. This was the third oil-producing horizon reported, the others being the top of the same member and the 80-foot Baskoo sand at the base of the Kootenai, reached at 2,606 feet. The Baskoo sand swabbed 4 bbls. an hour, but neither of the flows in the 27-foot member of the Ellis was commercial production. The first of these was accompanied by a big gas flow, claimed to be 15,000,000 feet a day. When the third oil horizon was reached at the base of this sand the well was rigged with flow lines before drilling deeper, but when drilling resumed the production failed to measure up to expectations. The 27-foot sand correlates with a similar formation found in the Bear's Den well, 6 or 7 miles to the southeast, and lies a short distance above a 52-foot sand the base of which is at the Madison-Ellis contact. This last named sand was the primary objective of the Flat Coulee test. The bit left the 27-foot sand at 2,905 feet to enter the black lime of the Ellis; this formation will continue till the basal sand just above the Ellis-Madison contact is reached.

Turner Valley

In the Turner Valley Field, Royalite's No. 10, NE Section 12-20-3w5, at latest reports is drilling at 2,324 feet, having so far penetrated the sand to a depth of 64 feet. Royalite's No. 6, LSD 16, Section 31-10-2w5, is drilling at 3,973 feet. Royalite's No 8, LSD 9, Section 12-20-3w5, is at 2,838 feet and drilling. Royalite's No. 9, LSD 6, Section 13-20-3w5, is drilling at 3,257 feet. Dalhousie Oil Co.'s No. 1, LSD 4, Section 18-20-2w5, is at 4,413 feet and drilling out the cement preparatory to diamond drilling the Madison lime. Dalhousie Oil Co.'s No. 5, LSD 16, Section 30-19-2w5, is at 4,859 feet and drilling. Dalhousie's No. 6, LSD 10, Section 13-20-3w5, is at 4,517 feet and cleaning out the hole before resuming drilling. Home Oil Co.'s No. 2, LSD 14, Section 20-19-2w5, is drilling at 3,388 feet. Home's No. 3, same LSD, is rigging up. Foothills Oil & Gas Co.'s No. 1, SW Section 26-20-3w5, is at 3,498 feet and doing general repair work while waiting for some materials. Foothills Oil & Gas Co 's No. 2, LSD 8, Section 1-20-3w5, is cleaning out the hole and running 12½-inch casing preparatory to resuming drilling at 1,850 feet.

McLeod Oil Co.'s No. 1, LSD 16, Section 1-20-3w5, has got the top of the Madison limestone at 3,850 feet, and is cementing the 6¾-inch casing in the top of the lime. McLeod's No. 2 crude naphtha producer, same LSD, got the top of the limestone at 3,640 feet. This is the first time the limestone has been reached with an 8-inch hole and the 6¾-inch can be run without any underreaming. McLeod's No. 2 got its first wet gas production at 140 feet in the lime.

Illinois-Alberta Oils' No. 1, LSD 14, Section 12-20-3w5, reported for the week ending January 28, a crude naphtha production of 109 8 bbls. Illinois-Alberta's No. 2, same LSD, is at 1,386 feet and drilling.

Spooner Oils' No. 1, LSD 12, Section 13-20-3w5, is spudding around the lost bit preparatory to fishing. With the hole at 4,930 feet the well flows by heads at frequent intervals, and will probably be a commercial producer when drilled a little further into the sand. Vulcan Oils' No. 2, LSD 11, Section 13-20-3w5, is reported drilling at 4,595 feet; the drill is in the Fernie shales with frequent traces of lime.

Great West Oils' No. 1, SE Section 7-20-2w5, is getting ready to resume drilling at 5,370 feet. The drillers have an unfinished fishing job, due to some tools becoming cemented in the casing about halfway down.

British Dominion Oil Development Corp., LSD 4, Section 5-20-2w5, is drilling at 6,350 feet.

North End of Field

In the north end of the field, Stockmen Oils' No. 1, LSD 1-2, Section 27-20-3w5, has rigged up a temporary derrick and is pulling the inside strings of casing preparatory to finishing the well at the shallow gas horizon at 1,760 feet. It is expected that the well will be finished about February 21, when work will be started on No. 2, in LSD 7, same section.

New McDougall-Segur's No. 3, LSD 14, Section 12-20-3w5, is reported to have resumed drilling after cementing the 15-inch casing at 160 feet to shut off the surface water.

Calmont Oils, LSD 2, Section 1-20-3w5, is drilling at 4,965 feet with 8-inch casing hanging at 4,270 feet, and the open hole standing up very well. The drill entered the Fernie shales at 4,958 feet. Okalta Oils' No. 1, LSD 1, Section 1-20-3w5, is down 4,465 feet and underreaming and running casing. At last reports the 8¼-inch string was at 4,426 feet. The bottom formation is extremely hard, and it is expected that the Home sand in the Fernie shale horizon will be reached soon after drilling is resumed.

Seneca Oils, LSD 1, Section 34-20-3w5, which previously was down 3,710 feet, is now drilling past 19 joints of casing at the bottom of the hole. This string is being cemented off to prevent it crowding the bit, which is down around 3,320 feet.

Regent Oil Co., LSD 16, Section 1-20-3w5, is reported rigged up ready to

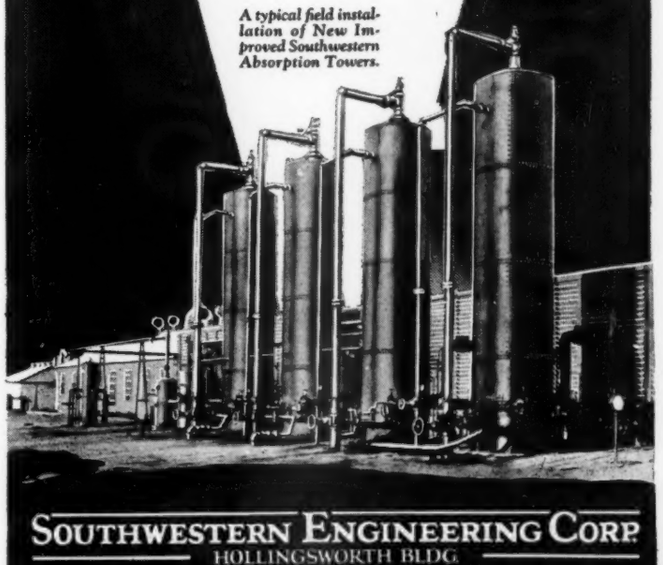
NEW IMPROVED
SOUTHWESTERN
ABSORPTION
TOWERS

Years of research work with full scale field tests under widely varying conditions have resulted in the designing and construction of this... the latest type Southwestern Absorption Tower.

Increase in your plant efficiency is a certainty with the use of these towers.

Capacity at 30 lbs. pressure has been increased 25% to 50%. Residual gas tests are astonishingly low.

Send the Coupon for Complete Information.



A typical field installation of New Improved Southwestern Absorption Towers.

SOUTHWESTERN ENGINEERING CORP
HOLLINGSWORTH BLDG.
Los Angeles, Calif.
and 90 WEST STREET, NEW YORK CITY
Branch 605 Mayo Building Tulsa, Oklahoma
Branch 426 Transportation Bldg. Montreal, Canada

SOUTHWESTERN ENGINEERING CORPORATION LOS ANGELES

Southwestern Engineering Corp.,
(At office nearest you)
We are interested in Absorption Tower and Oil Industry equipment. Please send us detailed information.
Name_____
By_____
Address_____

4922

Can't Leak!

A WORLD FAMOUS institute of technology in Massachusetts has this to say of the ROBINSON Orifice Fitting—"it can be used very satisfactorily with either manometer or recording meters to give consistent and accurate results." This is because the gas cannot leak by the ROBINSON Orifice Fitting. It all must go through the orifice in the fitting to be correctly measured. The ROBINSON eliminates by-pass valves, a source of leakage. Over 8000 in use. *Write for details.*

Note extreme simplicity of ROBINSON installation. The fitting occupies no more space than a valve.

ROBINSON ORIFICE FITTING COMPANY
1435 SANTA FE AVENUE, LOS ANGELES, CALIFORNIA
CALIFORNIA DISTRIBUTORS:
Westcott & Greis, Inc., Los Angeles; Jensen Instrument Co., Los Angeles
MID-CONTINENT DISTRIBUTORS:
B & A Specialty Co., Tulsa, Houston; Westcott & Greis, Inc., Tulsa, Dallas

ROBINSON ORIFICE FITTING

for POWER PLANTS

Industrial, automotive and oil field plant executives know the value of well-planned efficiency—promoting power transmission! Our experience in the design and assembly of piping for such purposes is back of every task we undertake.

Power Piping
EVERY INDUSTRIAL NEED

POWER PIPING CO. • PITTSBURGH, PA.

resume drilling at 2,475 feet. Sentinel Oils, Section 8-20-2w5, is reported at 3,675 feet and drilling.

In the Highwood district, southern foothills, Imperial Oil, Ltd. Highwood No. 1, LSD, Section 36-18-3w5, is at 3,624 feet and straightening a crooked hole.

Moose Mountain

In the Moose Mountain district, west of Calgary, Signal Hill Oil Co.'s No. 2, LSD 9, Section 34-23-5w5, is reported drilling in the Dakota-Blairmore formation at 1,835 feet, with casing at 1,600 feet and the hole in good shape. Showings of oil were met around the 1,600-foot level, but nothing approaching commercial production. On the Morley Indian Reserve, Wabash Oils diamond drill test is at 650 feet and stated to be drilling in the Fernie shales close to the top the the Limestone. Production is looked for between 250 and 300 feet in the lime.

Doherty Tests

In the Pincher Creek district, southwestern Alberta, the Alberta Gas & Fuel Co.'s Doherty No. 1, Section 34-2-29w4, has started drilling with a 24-inch hole. This is the first Henry L. Doherty Co. test to be undertaken in the Alberta fields. The area was geologized by L. M. Farish last summer, and it is reported that the Doherty interests have increased their holdings in the Pincher Creek area to 100,000 acres and that in all three tests will be drilled. It is further reported that $1,000,000 has been set aside for development work in this area, of which some $290,000 has already been spent. Smith, Andrus & Leason who contracted to freight some 500 tons of materials from Hillspring Station to the well site, a distance of 17 miles, delivered the first materials on December 1 of last year. The camp is one of the most completely equipped in the Canadian West, including a dwelling house with 10 rooms and baths, ice house, blacksmith shop, coal house, boiler room housing two 6-ton boilers, and 82-foot derrick enclosed to a height of 32 feet with a 30 by 60 rig building. The entire plant is steam heated and lighted with electricity. Drilling equipment was shipped from Prince Edward Island, where it was used last year to carry a test to nearly 6,000 feet depth; and the company is prepared to drill the Doherty No. 1 to the same depth if necessary. The altitude of the well is approximately 4,400 feet above sea level. Fuel oil will be used for drilling, and a 250-bbl. storage tank is being provided.

In the Milk River district, southern Alberta, Commonwealth Oils, Ltd., of Calgary is reported to be planning to put down a test this spring in Verdigris Coulee, approximately 10 miles southeast of Milk River. In the Warner district, Gas Production Transportation, NE, Section 21-4-18w4, is reported drilling in blue shale at 2,600 feet depth.

GULF COAST FIELDS

(Continued from Page 51)

21 came in flowing at the rate of 1,050 bbls. of pipe line oil. Sand in the latter 300 feet west of No. 18, and for No. 24, is at a total depth of 4,188 feet

As a result of these two good wells, Rycade has locations for No. 23 Wisdom, 300 feet west of No. 21, and for No. 13 Nash, 2,375 feet east, 350 feet north of the southwest corner of the Nash 200-acre tract adjoining the Flessner tract to the north. A rig already is up for the latter test. Rycade's No. 22 Wisdom is drilling gumbo at 4,348 feet, while No. 9, an old well, is to test a sand at 4,289 feet after being deepened from 4,246 feet.

Hardin County Domes

At Batson, Ada Bell Oil Co. has staked a location for No. 118 Producers. This field got a well pumping 5 bbls. daily with the completion of Paraffin Oil Co.'s No. 71 Paraffine at 660 feet. Another Batson test, East Batson Oil Co.'s No. 10 Conzelman, was being bailed at the close of the week for a test at 1,175 feet.

At Saratoga, Gulf Production Co. has a rig up for No. 25 B. B. B. & C.

Sour Lake got a 10-bbl. pumper in Humphreys Corp.'s No. 1 Bashara, which was worked over at 4,090 feet. Elberts, Tallourne & Hebert also were trying to bail in their No. 3 Jackson from sand at 2,900 feet. Chappell Hill Oil Co. has a rig up for No. 1 Hale. Farish & Ireland have started deepening No. 2 S. & B. and are drilling below 1,600 feet. Gulf Production Co. is ready to start drilling at No. 1 Hamman. The latter company's No. 3 Thomson is down 3,490 feet.

Pierce Junction—Harris County

Rio Bravo Oil Co. worked over its No. 1 P. F. A. and brought it in flowing 85 bbls., 45 per cent sediment and water, from sand at 4,175 feet. This company's No. 2 G. H. & S. A. and No. 7 Settegast both tested salt water, the former at 3,775 feet and the latter at 3,897 feet. Both will be deepened. Rio Bravo Oil Co.'s No. 101 G. H. & S. A. is drilling at 5,430 feet and No. 8 Settegast at 2,879 feet.

Anderson & Plummer are drilling deeper in their No. 2 Whitehead and are down below 4,410 feet. Joe Bashara's No. 2 fee (Jones) is drilling at 1,176 feet. Cullen and associates' No. 4 Howe has strainer set at 4,830 feet preparatory for a test. Gulf Production Co.'s No. 23 Taylor is flowing 1,500 bbls. from 4,720 feet, and its No. 24 Taylor is drilling at 2,402 feet. This company also has a rig up to deepen No. 1 Saunders. Leonard and associates' No. 1 Settegast is drilling at 4,275 feet. Moody Corp.'s No. 3 Hume is down 4,375 feet, its No. 2 Whitehead is drilling at 3,300 feet and its No. 1 Cooper at 4,075 feet. This company also is getting ready to deepen one of its old wells, No. 1 Marland fee.

Goose Creek—Harris County

Considerable activity is under way at Goose Creek in working over and deepening of old wells, particularly by Humble Oil & Refining Co. This company succeeded in cleaning the hole and has started deepening No. 5 Gaillard, which Saturday was drilling at 1,410 feet. No. 30 Gaillard Peninsula is being washed as is No. 27 Gaillard. Humble started to pull liner to deepen No. 20 A. Smith, but found that the derrick was too weak, so at present is building a stronger one. This is to be deepened from the 2,436-foot sand at which it formerly was completed. Humble's No. 2 Beaumont State Land still is fishing at 2,938 as is No. 10 Sweet at 2,626 feet. Humble's No. 73 Simm-Smith has reached a total depth of 5,043 feet. It is in sand but has found no showing.

Gulf Production Co.'s No. 19 Hoffman-Gaillard at Goose Creek is drilling at 2,774 feet. Its No. 2 San Jacinto Bay is drilling below 3,123 feet. Both of these are old wells being deepened.

Liberty—Liberty County

Sun Oil Co.'s No. 1 Mitchell in the north extension district of the South Liberty Pool is drilling around 1,700 feet. The Texas Company also is to drill a test there and has a location for No. 8 Monroe heirs 200 feet south of Yount Lee Oil Co.'s No. 1 Mitchell, which extended the field north. The latter's No. 2 Mitchell is drilling below 1,690 feet.

One and a half miles north, The Texas Company's No. 1 Green is drilling around 850 feet.

Hull—Liberty County

Empire Gas & Fuel Co. has completed its No. 26 Barngrover pumping 45 bbls. This is an old well deepened to 3,140 feet. This company has made a location for No. 28 Barngrover. Gulf Production Co.'s No. 83 Phoenix is to be put on the pump at 3,650 feet, its No. 88 Phoenix is drilling at 2,150 feet and No. 89 at 2,735 feet. Republic Production Co.'s No. 41 Dolbear is drilling below 2,415 feet and No. 94 is down 2,722 feet. The Texas Company has sidetracked to a new total depth of 4,654 feet in No. 7 Hannah, and is setting 6⅝-inch casing at 4,623 feet. This test is being drilled jointly with the Vacuum Oil Co.

High Island—Galveston County

McLean Oil Co. has abandoned as dry its No. 10 Cade. It was drilled to a depth of 4,500 feet where it encountered sand without a showing. No. 6-C Cade is drilling at 2,590 feet. Gulf Production Co.'s No. 6 Smith, an old well deepened to 2,950 feet, is flowing 600 bbls., while this

AMSCO

Amsco Manganese Steel is tough and durable—tougher and more durable than any other steel, yet ideally suited for casting every heavy duty wearing part. It is truly the toughest steel known—so tough that users of Holt and Best Tractors, equipped with Amsco Crawler Parts, practically eliminate time lost by break-downs and repairs—real savings in time and trouble.

Write us for full information if you are not using Amsco Manganese Steel Pulleys, Bits, Cutters, Drills, Crown and Casing Block Sheaves, SS-40 and SS-124 Chains, Sprocket Wheels, Clutches and Cat Heads, Gears and Pinions for Rotary Tables, Drive Bushings and Hoist Drums. Heavy duty wearing parts for tough jobs are made to specification. Send drawings and details for quotation.

"The Toughest Steel Known"

Made for HOLT *and* BEST TRACTORS

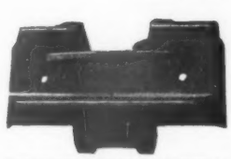
HUNTING TOOTH SPLIT RIM SPROCKET WHEEL

FRONT IDLER

SPLIT RIM SELF-CLEANING TOOTH SPROCKET WHEEL

UPPER TRACK ROLLER

DOUBLE FLANGED LOWER ROLLER



ONE-PIECE CRAWLER TREAD

SINGLE FANGED LOWER ROLLER

ROLLERS, BUSHINGS, PINS

FOR THE PARTS THAT WEAR

CHICAGO HEIGHTS, ILLINOIS
NEW CASTLE, DEL.
OAKLAND AND LOS ANGELES, CALIF

AMERICAN MANGANESE STEEL COMPANY

Distributors to the Oil Industry

LUCEY PRODUCTS CORPORATION, *Tulsa, Oklahoma*

BUCK & STODDARD, *Los Angeles, California*

DENVER, COLORADO
SOUTHERN MANGANESE STEEL CO.,
ST. LOUIS, MISSOURI

Atheys Wagons *don't care* where they go

Put 10 ton loads on Athey Wagons—hitch them in train to a tractor—and they will follow wherever the tractor can go.

They haul bigger loads—which means fewer trips—over mud, bad roads or no roads at all—because their broad track bands make their own roads and the construction and anti-friction bearings make Atheys remarkably light running.

Tractors can haul bigger pay loads with Atheys. See your nearest Caterpillar Tractor Company's dealer or write direct for full information.

Manufacturers of oil field equipment that must be dependably mounted, are rapidly standardizing on Athey Truss Wheel Wagons.

ATHEY TRUSS WHEEL CO.
130 N. St., Chicago, U. S. A.
Cable Address: "Trusswheel," Chicago.
The Baldwin Locomotive Works, Foreign Representatives, Philadelphia, Pa.

ATHEY TRUSS WHEEL WAGON
IT BRIDGES THE SOFT SPOTS

company's No. 2 Smith, another old well, is drilling at 4,840 feet.

Orange and Terry—Orange County

Brown-Babbitt Oil Co. started to deepen its No. 4 McLean, but has shut the well down at 3,540 feet. This company also is making arrangements to deepen No. 8 McLean. Great Southern Oil Co.'s No. 1 Bland is to be put on the pump. Gulf Production Co. has a rig up to deepen its No. 2-A Kishi-Lang. This company's No. 21 Lee Hager fee has set strainer at 4,540 feet. Rex Petroleum Co 's No. 10 Carbello, another old well, is to be deepened. Rycade Oil Co. has encountered a sand in No. 13-E State and has set 4¾-inch casing at 4,798 feet. Sun Oil Co.'s No. 2 Brown is drilling at 5,275 feet. Texhoma Oil Co.'s No. 8 Chesson at Terry is flowing 300 bbls. of net oil with an additional 6 per cent of sediment and water after being deepened to 3,179 feet.

Barbers Hill—Chambers County

Bennett Petroleum Co. abandoned its No. 8 fee after hitting caprock at 4,867 feet. This was an old well, originally completed in August, 1927, flowing 200 bbls. daily from sand at 3,356 feet. R. L. Bartlett's No 1 Fisher is drilling sandy shale and lime at 2,115 feet.

Allen and Clemens—Brazoria County

At Allen Dome, Roxana Petroleum Corp.'s No. 4 Allen was bailing heavy mud and fine sand with about 14 bbls. of oil as the week closed. This test blew in a couple of weeks ago making an estimated 50,000,000 feet of gas, but stopped producing after a short time. It now is being bailed in again. Total depth is 4,913 feet. No. 1 Allen Bernard has not been placed on the pump as yet to know what it will make, but Saturday rods were being run. This is down 5,337 feet. No. 1 Random which blew out while drilling at 4,931 feet, has drill stem stuck and cutting tools are being run. Roxana's No. 2 Bell at Clemens is drilling hard, sandy lime at 5,782 feet.

Miscellaneous Texas

Humble Oil & Refining Co. has a location for another test at Raccoon Bend, Austin County. This is No. 1-A Grawunder, which is North 22 degrees West, 1,170 feet from No. 2 Gotosky, which was brought in 10 days ago as the first important producer in that district. Humble's No. 1 Wilson at Raccoon Bend is drilling sand at 1,432 feet. Alexander & Lyle's No. 1 Gobel, Austin County, is drilling around 2,700 feet.

At West Columbia, Brazoria County, The Texas Company is making arrangements to deepen an old well, its No. 52 Hogg. Stanfield & Meyers' No. 1 McNeil, Brazoria County, is drilling around 325 feet.

Pure Oil Co.'s No. 1 Lost River at Lost Lake, Chambers County, is drilling at 3,568 feet in shale. According to geophysical observations, this test should bring to light something in the near future. This is the first test drilled in this district, although this company has five others rigged up waiting to drill pending developments in No. 1 Lost River.

Carl Milentz' No. 1 Auerbach, near Glidden, Colorado County, has been shut down. Rich Oil Corp.'s No. 1 Von Rosenberg fee, 2½ miles northeast of Columbus, Colorado County, also has been shut down temporarily while a steam rig is being set up. This test has been drilling with a light gasoline rig. Waldvogel and associates' No. 1 Tanner, 3 miles south of Glidden, is waiting drilling until completion of a water well.

Gulf Production Co.'s No. 15 Moore at Moore's Field (Orchard), Fort Bend County, is drilling at 1,350 feet. Humble Oil & Refining Co.'s No. 1 Sugarland Industries at DeWalt, Fort Bend County, is drilling gumbo at 2,443 feet. Humble's No. 1 Tex-Ex.-Warren at Hockley, northwestern Harris County, is drilling sandy shale and boulders at 144 feet. No. 2 Warren is drilling sandy lime and shale at 4,137 feet.

Following the abandonment last week by P. S. Griffith's No. 2 fee, wildcat 12 miles northeast of Houston, a location has been made for another No. 2 fee, 9 miles northwest of Houston.

Oscar Head's No. 1 Boykin, Jasper County, is drilling around 850 feet. Tar Well Oil Co.'s No. 1 Nona Mills has been shut down.

James McMurry and associates' No. 2 Crosby, 5 miles northeast of Port Arthur, Jefferson County, is drilling below 2,500 feet. Port Arthur Oil & Gas Co.'s No. 4 West is drilling at 3,415 feet.

At Markham, Matagorda County, Rycade Oil Corp. and Humble Oil & Refining Co. jointly have a rig up for No. 1 Hudson following the placing of No. 5 Kountze on the pump good for 200 bbls. daily at 3,872 feet. No. 1 Hudson is 800 feet south, 400 feet east of the northwest corner of Block 22, Henry Parker Survey.

In Nacogdoches County, a location has been staked 5 miles southwest of Chireno by Stein & Lewis for No. 1 H. W. Birdwell The location of this is Jose Antonio Chireno Survey; 216 varas from the north line and 885 varas from the east line of the farm.

Union Sulphur Co. also has staked a wildcat location in Tyler County, 1,600 varas from the west line and 650 varas from the north line of the Ben Burke Survey, 14 miles east from Colmesneil. This will be No. 1 Crumpit. This company's wildcat, No. 1 Wynn Buchanan, 12 miles northeast of Woodville, is drilling below 1,800 feet.

Rich Oil Corp.'s No. 1 Lee, Wharton County wildcat, is drilling at 900 feet.

Pratt Hewitt is drilling No. 1 Konieczny, Washington County, at 1,500 feet. This operator's No. 2 was abandoned recently.

SOUTH LOUISIANA FIELDS

Lockport—Calcasieu Parish

Vacuum Oil Co. and Gulf Refining Co. have a fishing job under way at No. 3 Farquahar with the hole at a total depth of 4,400 feet. These operators are laying down 6⅝-inch casing in No. 5 Farquahar and are trying to run casing in No 4 State on Bayou d'Inde at 4,716 feet. No. 1-A is drilling blue shale at 5,327 feet. A rig is up for No. 6 Bordages and a derrick is being built for No. 1 State on Calcasieu River. A derrick is to be started for No. 5 Lock-Moore as soon as a bridge can be built to the location.

Vinton—Calcasieu Parish

Edgerly Petroleum Co. is going deeper in No. 11 Vincent after testing salt water at 3,600 feet. Gulf Refining Co.'s No. 44 Star-Vincent failed to make a flowing well and is to be put on the pump at 2,470-72 feet. Marrs McLean's No. 1 G. & N. G. is drilling at 2,100 feet and Seiss Oil Co.'s No 5 Green is down below 2,500 feet. Vinton Petroleum Co.'s No. 61 Gray is drilling below 2,200 feet.

Edgerly—Calcasieu Parish

Green Oil Co.'s No. 9, Section 28-9s-11w, had set strainer and was bailing for a test at 3,215 feet as the week closed. Rex Petroleum Co.'s No. 8 Hunter, Section 21, also was being bailed at 3,373 feet. Plummer Oil Co.'s No. 1 Lyons was drilled to 3,840 feet and tested salt water. Wilson-Broach's No. 3 Wilson, Section 28-9s-11w, has set casing around 3,800 feet.

Starks Dome—Calcasieu Parish

Gulf Refining Co. has a rig up for another test at Starks, this being No. 10 Industrial Lumber Co., Section 20-9s-12w. This is 400 feet east from No. 9 (Section 19), which was abandoned several weeks ago. No. 8 Lutcher-Moore, Section 19-9s-12w, is drilling below 3,160 feet.

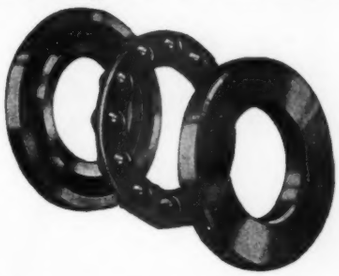
Sulphur—Calcasieu Parish

Union Sulphur Co. is getting ready to start drilling in No. 722 fee, which has been standing as a rig for several months, and also has rigs up for two new tests, Nos. 723 and 724. The No. 723 is 1,179 feet north and 640 feet west from the SE cor. SW NW Section 29-9s-10w, while the No. 724 is 329 feet north and 61 feet west from the SE cor. SW NW Section 29-9s-10w. This activity at Sulphur is following a recent workover by which this company brought back in one of its old wells good for 200 bbls. daily.

Jennings—Acadia Parish

Cline, Smith & Cline tested salt water in their No. 2 Wilson and have abandoned the test at 1,600 feet. Jennings Oil Co. is rigging up to deepen its No. 4 Crowley. The Texas Company has set casing in No. 4-B Latrielle, which is down 2,100

In this Age of Competition—



Price is a big factor—even in the case of a precision made product such as Aetna Thrust Ball Bearings. Aetna volume production enables us to take advantage of all manufacturing economies of course—but never, in all the years we have been in business, have we found it necessary to sacrifice quality for quantity. Our policy—of "precision beyond specifications"—is the reason back of our steady growth to the position we hold in the industry today.

Write to the Aetna Engineering Department for advice or information on special Aetna Bearings for your machines.

AETNA BALL BEARING MFG. CO.
2745 High St., Chicago, Illinois

AETNA
THRUST BALL BEARINGS

They thought it couldn't be done!

WHEN a group of oil men heard that a 55,000 barrel storage tank could be stripped in a *week*, they were naturally skeptical. Similar paint removing jobs had previously taken twice as long!

But six days later they were satisfied. The job had not only been finished in the time promised but it was done by *two men* instead of the gang formerly employed. Oakite stripping materials removed the several coats of old paint with such remarkable speed and economy that costs were reduced 60%!

Proportionate economies can be realized on *your* paint stripping jobs. Or, if you clean salvage parts, storage tanks, tank trucks and similar equipment, have the Oakite Service Man call and estimate what Oakite methods will save over your present practice. A post card will bring him.

Oakite Service Men, cleaning specialists, are located in the leading industrial centers of the U. S. and Canada.

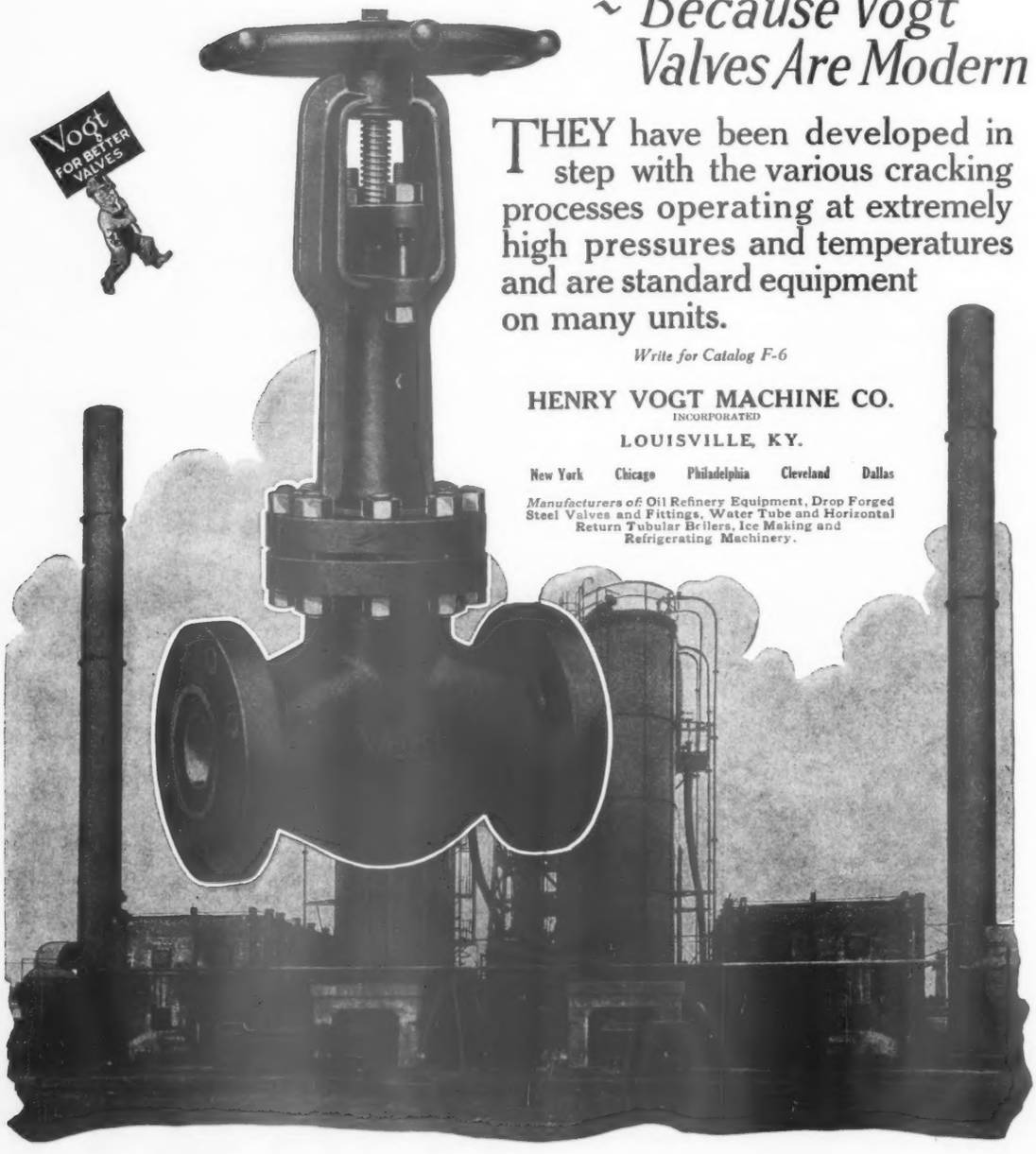
Oakite is manufactured only by

OAKITE PRODUCTS, INC., 44C Thames St., NEW YORK, N. Y.

OAKITE
TRADE MARK REG. U.S. PAT. OFF.
Industrial Cleaning Materials and Methods

Modern Refineries Use Vogt Valves

~ Because Vogt Valves Are Modern



THEY have been developed in step with the various cracking processes operating at extremely high pressures and temperatures and are standard equipment on many units.

Write for Catalog F-6

HENRY VOGT MACHINE CO.
INCORPORATED
LOUISVILLE, KY.

New York Chicago Philadelphia Cleveland Dallas

Manufacturers of Oil Refinery Equipment, Drop Forged Steel Valves and Fittings, Water Tube and Horizontal Return Tubular Boilers, Ice Making and Refrigerating Machinery.

feet. Yount Lee Oil Co.'s No. 2 Latrielle is drilling around 2,400 feet.

Hackberry—Cameron Parish

In the old Hackberry district, C. O. Noble and associates' No. 1 Ellender, Section 27-12s-10w, tried to blow out at 4,337 feet, but with a blow-out preventer on the test this was stopped. With the gas was a heavy showing of oil. Yount Lee Oil Co.'s No. 7 School Land, Section 16-12s-10w, is drilling around 4,350 feet. Yount Lee Oil Co.'s No. 7 State Land is drilling around 1,700 feet.

At East Hackberry, 1½ to 2 miles east of the old Hackberry district, Calcasieu Oil Co.'s No. 1 Watkins has encountered oil sand at 3,946 feet. No. 2 Watkins is drilling below 235 feet and No. 1 Dorion is in gumbo and lime at 2,657 feet. Yount Lee Oil Co.

Sweet Lake—Cameron Parish

Pure Oil Co.'s No. 4 Sweet Lake has been shut down temporarily waiting orders at a total depth of 5,921 feet. This is somewhat deeper than the No. 5, which came in last week flowing initially at a rate of 1,500 bbls. of pipe line oil from sand at 5,562-5,660 feet.

Miscellaneous Louisiana

Lacola Oil Co. (Choupique Oil Co.) has junked and abandoned its No. 1 Benkenstein, Section 31-10-10w, Calcasieu Parish. It was drilled to a total depth of 4,268 feet. Newton Drilling Co.'s No. 1 Dupre, between Lake Charles and Lockport, Calcasieu Parish, is drilling around 3,500 feet. Jefferson Oil & Development Co.'s No. 2 Salt Mine, Jefferson Island, Iberia Parish, is drilling around 3,250 feet. Louisiana Land & Exploration Co.'s No. 1 Avery's Island, is down below 3,500 feet.

At White Castle, Iberville Parish, Roxana Petroleum Corp.'s No. 1 Wilbert tested sulphur and salt water at 1,700 feet, but will be deepened. Union Sulphur Co.'s No. 1 Schwing on Bayou Blue Dome, Iberville Parish, is drilling around 2,500 feet. Rycade Oil Co.'s No. 2 Atchafalaya, St. Martins Parish, is coring sand and shale at 2,179 feet. No. 1 was abandoned the previous week at 3,916 feet because of an unsuccessful fishing job.

MICHIGAN FIELDS

(Continued from Page 53)

was drilled in December 22 from 340 to 70 bbls. every 24 hours. The decrease during the past five days, however, has been less than 1 bbl. per day and the well is believed to have reached steady production.

Employes of the Gray Well Drilling Co., of Chicago and Milwaukee, who are in charge of sinking the well, reported the discovery of a first show of gas at 610 feet in No. 3 well. This is 25 feet lower than the first show of gas at 585 feet in the discovery well. The first show of oil was found in the 1-foot Berea strata at 1,180 feet in No. 2. Drillers do not expect this until a depth of about 1,200 feet in No. 3.

Rigs are being set up on three properties within 1 mile of the producing well and are expected to be spudded in by the close of this week. A fourth rig also is being shipped in from Saginaw and will be set up immediately for operations on a piece of property about a quarter of a mile southeast of the discovery well.

A second rig of the Gray Well Drilling Co. of Milwaukee and Chicago, which has contracted to sink three more holes for the Muskegon Oil Corp., has arrived and will be set up on the NE of the SW of Section 4-10n-16w immediately. A third rig is on the way and will also be set up and put into operation immediately after arrival on property southwest of the discovery well about one-quarter of a mile.

C. M. Bowers and A. W. O'Keefe of Detroit, Mich., and Plymouth, Ind., respectively, have a rig on the way which they will use in drilling on the property of Charles W. Smith in Section 3-10n-16w.

Another new syndicate which has announced that drilling will be started in the SW of the SE of Section 7-10n-16w, also was formed here with the Wolverine Mineral Development Co., a recently organized local lease-holding syndicate as the nucleus. R. L. Hill of Saginaw and other Muskegon business men, including Mayor J. Arthur Dratz, are interested in the new drilling syndicate.

W. R. and W. E. Ramsey, Oklahoma City oil operators, have recently purchased leases on several tracts in the northern part of Muskegon County and announced that they will drill.

T. J. Scholer, Dallas, Tex., operator, was here last week and made arrangements to ship a rig from the Amarillo Field to drill here in April.

Watching Development

The Pure Oil Co., the Ohio Oil Co. and the Dixie Oil Co. all have lease holdings of from several hundred to several thousand acres in the local field and are watching the development.

The Dixie Oil Co. is taking the production of the discovery well, which Saturday, January 28, 34 days after it was brought in produced but 83 bbls. in 24 hours. This is a decline of 257 bbls. from the first day's production of 340 bbls. in 24 hours. The 1,600-foot 6-inch casing dropped about 40 feet into the hole Tuesday when a cast-iron casinghead cracked and had to be removed. A regular control head was put in its place and the well began flowing after 14 hours with no production. It flowed at about 100 bbls. during the first 24 hours after it resumed production. It has decreased rapidly since then.

A rotary drilling outfit to be used in the SE of the SE of Section 6-10n-16w, on the property of Charles I. Giles was shipped last week from Shreveport, La., and is expected to arrive here within a few days, according to S. Murray Harris, head of a crew of employes of the Bulldog Oil & Gas Co. C. Wilbur White, president of the company, also is expected to arrive here this week to direct operations on his first well in the prospective Muskegon Field. Mr. White has a large number of leases, mostly in Muskegon and Laketon Township, upon which he has agreed to drill within from 30 to 90 days. He also holds a few leases on which he has agreed to drill within six months.

LA.-ARK. WILDCATS

(Continued from Page 46)

fall as a 1,000-bbl. producer but which has never produced more than a chloroform show of oil. Several months ago this well cored 2½ feet of sand at 3,134-37 feet the bottom of which showed traces of oil. Eight and one-quarter inch casing was set at 3134 feet early in January and test made during the week. It bailed salt water and after standing over night the hole filled up 400 feet in water with no show of oil. It will be drilled a few feet deeper.

Eight Wildcat Completions

Including the two Richland Parish wells there were eight wildcat completions during the week, one a gasser (Richland) and the other a 20-bbl. pumper in Union County, Arkansas, which might be classified as a Smackover well. The former was the Moody-Seagraves extension in Richland and the latter W. R. Keever's No. 5 Ezell in Section 12-17-15, Union County, pumping 40 bbls. of fluid, 50 per cent water, total depth 2,170 feet. In Ouachita County A. T. Grayson and others' No. 1 J. W. Reynolds, Section 21-14-17, 6 miles southwest of Camden, is abandoned as a salt water hole at 2,250 feet following a show of oil and salt water at 1,756 feet which tested dry. Kensaw Syndicate abandoned No. 1 Kensaw, Section 31-19-24, Lafayette County, as a dry hole at 3,590 feet.

Barbour Oil Co. abandoned No. 1 Baker, Section 3-15-7, Franklin Parish, shut down since last August, as a salt water hole at 2,884 feet. It had been under way since December, 1926.

The Texas Company's No. 1 Pruitt in the W. S. Lissenbee Survey in Cass County, East Texas, was abandoned as a dry hole at 1,586 feet.

Buffalo Oil Co.'s No. 1 Crook, Section 4-13-18, Monroe County, Mississippi, begun shortly after the original Amory

ODEE gives you the best 50-50 deal in pipe today. Our factory process of welding into double lengths enables you to

Save ½ of field welding

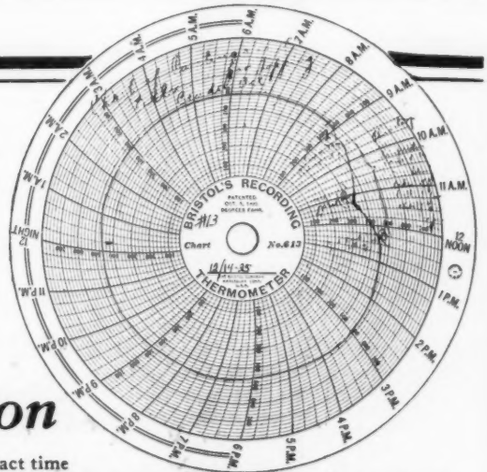
These 40-foot lengths of ODEE line pipe cut your field welding costs in half, give a permanent joint as strong as the pipe itself, eliminate couplings, and make a flexible line which follows the contour of the country more easily.

The rigid requirements of Greenspon inspection are law throughout our plant. No length of pipe goes out without our full guarantee behind it.

Ask for quotations—the saving will surprise you.

Jos. GREENSPON'S Sons
IRON AND STEEL COMPANY
Main Office: St. Louis *Branch:* Tulsa

A continuous check on Oil Still Operation



Full Day's temperature record of continuous oil still used for topping crude oil.

Note how closely the exact time and extent of unusual operating conditions can be checked-up on the chart record above—for example the marked temperature fluctuation showing from around 9 A.M. to 12:30 P.M.
This was caused by the still being cut off the battery during repairs on tower. At (1) still was cut off; (2) fire was applied, and temperatures gradually increased until still was again cut back on battery at (3).
Such records are especially valuable to the management, as they give a concise outline of the operating conditions in each unit, or process, during the entire day.
The simplicity of Bristol's Recording Thermometers assures accurate, trouble-free service. Sturdily constructed they "stand the gaff" year after year, and at a maintenance cost which is remarkably low.

Have Bristol's Sales Engineers make a survey of instrument needs in your plant. No obligation.

The Bristol Company
Waterbury, Connecticut

Branch Offices:

BOSTON, NEW YORK, PHILADELPHIA, PITTSBURGH, BIRMINGHAM, DETROIT, CHICAGO, ST. LOUIS, DENVER, SAN FRANCISCO

D&B

The combination for speed, safety and service

RUNNING extra long strings never bothers this combination—the D & B Rod Hook and the D & B Simplex Elevator. They're built for punishment! Maximum safety in both—easily handled, but both proof against accidental opening. The ball-bearings in the bail collar of the hook assume the load and thrust and permit easy handling in any direction. The D & B Simplex Elevator swings level under a heavy pull; no tipping or canting. The latch always works smoothly; none of the load rests on it. Rods cannot be released accidentally; the latch must be purposely tripped. Handle long strings with greater safety and speed—and be sure of safety with the D & B Rod Hook and Simplex Elevator!

Write for folders

D&B PUMP and SUPPLY Co.

LOS ANGELES, CALIF. DALLAS, TEXAS.

BRANCH STORES.

TORRANCE, TAFT, COALINGA, BAKERSFIELD, SIGNAL HILL HUNTINGTON BEACH & SANTA FE SPRINGS, CALIFORNIA.

SIMPLEX ELEVATOR
SAFETY ROD HOOK

excitement in October, 1926, and drilled to 720 feet is abandoned. It had drilled to that depth by August 4, 1927, and has been shut down there ever since.

NORTH LOUISIANA

Bienville Parish

S. P. Borden and others' have shut down their No. 2 L. & A. in Section 1-15-8, at 500 feet, waiting orders. Edwin J. Forrest is arranging to make a test at 3,003 feet on No. 1 Perritt, in Section 11-17-6.

Bossier Parish

Doern and others' No. 1 Bollinger, Section 9-22-11, is shut down waiting orders at 3,900 feet, about as far as any hole has been drilled in northeastern Bossier Parish lately. H. S. Goodwin is fishing for a bit lost at 1,700 feet in No. 2 Curtis, Section 36-17-13. Hamiter and others' No. 1 Hamiter, Section 10-23-13, is shut down waiting orders.

Caddo Parish

Greenwood Production Co.'s No. 1 Cooper & Ellerbe, in Section 15-18-14, is reaming to bottom at 3,234 feet, alternating with coring and drilling during the last 200 feet. Tubbs and others No. 1 Hines, Section 9-14-16, is shut down at 2,560 feet waiting on fuel.

Catahoula Parish

Locknager Oil & Gas Co.'s No. 3 Beasley, Section 26-9-6, is coring at 1,800 feet. Standard Oil Co. is drilling shale at 2,616 feet in No 1 Tensas Delta, Section 23-8-5.

Claiborne Parish

Rudesaele and others' are in gummy shale at 2,920 feet in their No. 1 Meadows, Section 20-21-7, just north of production in the Homer Field.

DeSoto Parish

Baca Drilling Co., formerly Carletin Drilling Co., No. 1 Stevens, Section 12-11-16, is drilling at 2,250 feet. Benson Oil Co.'s No. 2 Wold, Section 3-10-13, is down 1,250 feet. Dixie Oil Co. made 30 feet more hole through lime in No. 1 Jenkins, Section 9-12-11, and is drilling at 6,058 feet with 32 feet more to go before paralleling the depth of the Gulf Refining Co.'s No. 1-C Willis Williams, the deepest hole, in footage, of any well drilled in this territory—6,090 feet. Foster and others' No. 1 Johnson, Section 7-10-13, is drilling at 3,130 feet. Reliance Drilling Co. tested dry at 3,018 feet in No 1 Jones, Section 8-11-14, and have shut down for orders. R. O. Roy has put rig on No. 1 Tracy, Section 3-13-13, one of three wells that have been standing as derricks and rigs for three months. The Texas Company has gone back to No. 5 Grand Bayou Planting Co., in Section 25-23-12, to deepen it; pulled part of the 6-inch casing, sidetracked what couldn't be gotten out and set a new string at 2,415 feet.

Grant Parish

Having cleaned out the hole preparatory to going deep, W. D. Ball and others' No. 1 Elias Williams, Section 10-7-4, is waiting orders at 2,104 feet where it was formerly reported dry and abandoned. Swope and others' are drilling No. 5 Fee, Section 18-9-1e, at 514 feet.

Natchitoches Parish

Lawson & Pharis cored sandy lime at 2,380 feet in No. 1 Crowell, Section 22-5-6.

Rapides Parish

Collins Brothers' No. 1 Allen in Section 25-5-1w, is in gummy shale at 1,750 feet.

Red River Parish

Hazlett & Simmons' No. 2 Neeley, Section 1-14-12, is drilling at 1,711 feet.

Richland Parish

Gulf Refining Co.'s No. 1 Millsaps, Section 8-17-6, is drilling lime at 2,634 feet; No. 1 Ches Wymond, Section 20-18-6, cemented 6⅝-inch casing at 2,295 feet. Moody & Seagraves' No. 1 McDonald, Section 9-15-5, cemented 6-inch at 2,283 feet. Noe & Meredith are drilling No. 1 Boughton, Section 4-15-6, at 1,453 feet. Oliver & Masters, drilling No. 2 Hatch in Section 2-15-5 at 900 feet have made location for No. 1 Margis Hatch 1,366 feet south and 660 west NE cor. same section and have derrick up. Ouachita Natural Gas Co.'s No. 1 Cummings, Section 24-17-5, has 6-inch casing cemented at 2,300 feet. Palmer Corp. is bailing to test No. 2 Wayne Land & Timber Co., Section 23-16-5, at 2,475 feet after plugging back from 2,525 feet. Woodley Petroleum Co. are rigging up to drill No. 1 Osborn, 600 feet north and 400 east SW cor. SE Section 3-17-7, a half-mile east of Rayville.

Sabine Parish

S. P. Borden and others are below 100 feet with No. 1 Hamlin, Section 28-10-13, which began drilling February 6. Dixie Oil Co.'s No. 1 Steinfelt, Section 20-10-12, is shut down waiting orders following a test at 3,284 feet which developed a small amount of of oil. L. M. Bowman's No. 7 Bowman-Hicks, in Section 14-7-14, is fishing for testing tool at 3,822 feet, lost while trying to make a test of an oil show at that depth. No. 1 Mansfield Lumber Co., Section 15-7-14, skidded derrick 50 feet west of second hole junked at 1,250 feet and is rigging up.

West Carroll

Palmer Corp.'s No. 1 White, Section 2-19-10, is arranging to plug back from 2,849 feet to 2,445 feet for another test at about the depth of a previous show of gas.

Winn Parish

Ohio Oil Co. is drilling No. 2 Rolen, Account 1, Section 5-12-1w, at 4,067 feet. H. M. Roark's No. 3 Southern Minerals Co., Section 19-11-3w, has 6-inch cemented at 935 feet.

ARKANSAS

Bradley County

Johnson & Adams' No. 1 Southern Lumber Co., Section 12-12-12, is drilling at 2,335 feet after a test at 2,200-26 feet which failed to produce results.

Clark County

McKenzie Oil Co. began drilling second hole on No. 1 Eakin, Section 9-11-19, 50 feet north of the first, and has set 12-inch surface casing at 80 feet and 8-inch at 633 feet, slightly above where it tested fresh water with a show of heavy asphalt like oil and lost the hole.

Pike County

Carnes, Genther & Keith, reported to have had a show of oil in 4 feet of sand at 629-33 feet, arranged to set 6-inch casing with packer to test, cleaned out the hole and now shut down for repairs to rig on No. 1 Kelly, Section 10-8-23.

Poinsett County

Aarnes and others' No. 1 Aarnes, Section 23-10-6, is shut down waiting orders at 2,548 feet.

Pope County

Natural Gas & Fuel Corp.'s No. 1 Whorton, Section 7-8-21, is drilling at 2,735 feet.

Union County

W. R Keever cemented 6⅝-inch casing at 2,139 feet in No. 1 Kavanaugh, Section 12-17-15. Pitcher and others' No. 1 Arkansas Timber Co., Section 21-17-11, is drilling at 2,907 feet.

MISSISSIPPI

Alcorn County

Alcorn Petroleum Co. set 8-inch casing at 571 feet to cut off fresh water flow and is drilling at 580 feet on No. 1 Matthews, Section 14-2-7.

Jeff Davis County

Cherokee Petroleum Co. is drilling plug from 8¼-inch casing cemented at 3,134 feet in No. 1 Burkett, Section 14-6-18, to test a slight show of oil in a sand of which 2½ feet was cored, the bottom of the core showing signs of oil.

Lauderdale County

Lauderdale Oil & Gas Co. is drilling No. 1 Gunn, Section 13-7-16, at 3,100 feet.

Lee County

Moody & Seagraves' No. 1 Whitesides, Section 16-9-7, at 2,852 feet, has been drilled to contract depth with a few feet to spare, and with the hole standing full of sulphur water, is shut down waiting orders. Lee County Petroleum Co.'s No. 1 Hickman, Section 12-8-6, is shut down at 950 feet.

Monroe County

Amory Petroleum Co.'s No. 1 Hall, Section 8-13-17, is shut down waiting orders after pulling 8¼-inch casing set at 2,404 feet and reaming to top of three joints of 6⅝-inch casing lost in the hole several months ago, on which they have been unable to get a grip. The Texas Company and Transcontinental Oil Co. set 8¼-inch with packer and one joint of perforated liner to test 8 feet of sand

PATRICK CARBON
for Diamond Core Drilling

"Specify Patrick Carbon"

CARBON for drilling purposes lasts longer and gives very much better service when it is wisely selected. PATRICK CARBON is scientifically graded with this single purpose in mind. There is economy in its use.

SEND FOR BOOKLET

You can get in touch with our representative by wiring Duluth office

R. S. PATRICK
Duluth, Minnesota, U.S.A.
Cable Address, "Exploring" Duluth

Friends to Your Pocketbook

IN the production end of the oil game you need every possible friendly agency that you can command to help you keep out of the red ink column. A breakdown of production machinery often means a serious breakdown of profits — lost production time, expensive repairs and high labor costs.

In production machinery Champion Drop Forgings play a large part in preventing breakdowns, keeping up production and cutting repair costs. Their tough, give-and-take strength and sturdy stamina impart to the vital, load-bearing parts of production equipment the ability to carry on day in and day out.

Champion Drop Forgings are friends to your pocketbook. Be sure to specify them in new equipment or for replacement parts in old machinery.

THE CHAMPION MACHINE & FORGING CO.
Cleveland, Ohio

CHAMPION DROP FORGINGS

Seals any rod—without binding

ALFIT

"The Standard Packing of the World"

"Alfit" is a dough-like all-metallic packing that molds right into the stuffing box, making the use of cut packing rings unnecessary.

"Alfit" is self-lubricating, does not harden and never requires entire replacement. Only the amount absorbed by the very slight wear need be replaced at long intervals. The new packing molds right into the old, resulting in an entirely homogeneous body of packing.

"Alfit" being all-metal and greasy—is practically frictionless and does not drag on the rods.

How to select "ALFIT"

"ALFIT" No. 1 is guaranteed for general service on saturated steam, air, hot and cold water and gas.
"ALFIT" No. 2 is guaranteed for superheated steam at all temperatures up to 1200 deg. F.
"ALFIT" No. 3 is guaranteed for gasoline, ammonia, chemicals, acids, hot and cold oil, tar, etc. It has an exceptionally high melting point.

One of the country's largest steel plants writes:—

"Alfit" is very much better than anything we have ever used."

An engineering opinion—that is shared by the many other users.

WRITE FOR BULLETIN NOW.

Alfit Packing Co., Incorporated 299 Broadway, New York

FENWICK-REDDAWAY MFG. CO. NEWARK, NEW JERSEY

IWANA HAIR BELT

"IWANA"

HAIR BELT

Elasticity of "IWANA" enables the belt to absorb sudden and intermittent strains prevalent in oil field work, viz.: pulling tubing, running pipe, spudding and fishing.

FENWICK-REDDAWAY MANUFACTURING CO.
NEWARK, N. J.

Tulsa Representative: A. F. Campbell, P. O. Box 171

at 2,242-50 feet, which gave a strong odor of oil, and bailed dry. At the end of 12 hours the hole had filled up 75 feet with salt water and the casing and liner were pulled to be reset in the first formation below this sand that offers a good seat.

SOUTHWEST TEXAS

(Continued from Page 49)

northwest and southwest lines, is drilling at 1,500 feet.

Cole Gas Field No. 2

Cole Petroleum Co.'s No. 52 Benavides, Survey 412, Block 5, located 123 feet to north line and 482 feet to west line, has derrick up.

Dale Field

The Texas Company's No. 1 Jeff Moore, J. Gilbert Survey, is rigging up. No. 6, Lackey, J. Gilbert Survey, is rigging up.

Kingsville Field—Kleberg

Humble Oil & Refining Co.'s No. B-3 Dennett, Lot 19, Section 38, located 150 feet to CWL has derrick up; No. 5 Kleberg Lot 8, Section 40, located 105 feet to south and west lines, is drilling at 570 feet; No. 6 Kleberg, Section 40, Lot 1, located 150 feet to east line and 450 feet to north line, is rigging up. Houston Oil Co.'s No. A-2 Kissman, Section 41, Block 10, located 500 feet to north and west lines, has derrick up and reported will spud in.

Adams Gas Field—Medina

Southern Gas-Witherspoon Oil Co.'s No. 8 Nixon, 1,460 feet east of No. 1, is erecting derrick at 130 feet for rotary. Witherspoon Oil Co.'s No. 2 Nixon, (Tidal lease) Survey 63, located 590 feet to east line and 850 feet to north line, is drilling at 500 feet.

Saxet Field—Nueces County

Alamo Drilling & Leasing Co.'s No. 1 Gallagher, 10 miles southwest of Corpus Christi on the old Brownsville road, is shut down at 150 feet. Saxet Oil Co.'s No. 2 Meaney, is setting casing at 3,216 feet; No. 3 Meaney, is in gas sand at 3,234 feet.

Refugio County

Houston Oil Co.'s No. 6 Rooke is rigged up at 2,440 feet to deepen; No. 1 Rooke is rigged up at 2,393 feet to deepen; No. 4 Rooke at 2,634 feet cored gas sand; No. 8 W. J. J. Heard is drilling at 3,216 feet in gumbo; No. 1 Smith Heard is rigging up to deepen; No. 11 W. J. J. Heard is trying to sidetrack at 2,658 feet; No. A-2 Rooke is drilling. Houston Gulf Gas Co.'s No. 2 Shelly is at 3,307 feet waiting on casing; No. 5 W. Heard is drilling at 830 feet; No. 2 Ryals is drilling at 2,830 feet; No. 1 Vance set liner at 3,600 feet; No. 5 Fanny Heard is in gas sand at 3,276 feet; No. 3 A. W. Heard set 10-inch casing at 400 feet; No. 4 A. W. Heard is drilling at 2,510 feet; No. 1 Smith Heard is standing at 2,510 feet. Saxet Oil Co.'s No. 1 A, W. J. Heard has derrick up. George Williams, Trustee's No. 1 Terrell, Martin Powers Survey, 6 miles southwest of Refugio in wildcat area, is drilling at 1,925 feet.

White Point Field—San Patricio

Alamo Drilling & Leasing Co.'s No. 1 Hunter has derrick lumber ordered out. Houston Oil Co.'s No. 3 Humble is rigging up; No. 4 Humble is drilling at 2,306 feet; No. 5 Humble fee is location; No. 2 Ragsdale (deep test) is drilling at 4,010 feet; No. 3 Ragsdale is location. Saxet Oil Co.'s No. 2 White Point Development Co. is in gas sand at 2,180 feet; No. 8 Rachal is drilling at 2,534 feet; No. 10 Rachal is standing at 400 feet.

KANSAS FIELDS

(Continued from Page 44)

cor. NE NE Section 10-22-10. Christy and others' machine is on the ground for No. 3 Connoughey, SE cor. NE, Section 36-24-12. Empire Oil & Refining Co. made location for No. 2 Kolb, CNL NW NE, Section 15-25-13. Paul & Parker moved the rig out for No. 1 Wiley, SW cor. SE NW, Section 28-26-11.

Darby Petroleum Co.'s No. 6 Faukhouser, NW cor. SW SW, Section 24-22-12, made 100 bbls. after shooting sand at 1,657-88 feet. Empire Oil & Refining Co.'s No. 7 Demler, SW cor. NW NE, Section 25-22-12, had sand at 1,700-43 feet, total depth 1,751 feet, and after a shot of 200 quarts made 180 bbls. No. 5 Ott "A," NE cor. NE NW, Section 25-22-12 produced 200 bbls. from sand at 1,674-1,717 feet when shot with 240 quarts. No. 7 Schwab, SW cor. NW NE, Section 25-22-12, is making 300 bbls. from sand at 1,668-7,54 feet. Polhamus and others' No. 2 Holverson, SE cor. SW NE, Section 26-24-9, is a dry hole at 2,320 feet.

Marion County

Independent Oil & Gas Co. has the rig on the ground for No. 1 Mowrer, SE cor. SW SE, Section 15-17-4. Loomis & Kouker built the rig for No. 1 Boisington, SE cor. NE NW, Section 15-17-4. Lariauz and others' rig is up for No. 1 Shoupe, NE cor. SE NE NE, Section 22-17-4. Phillips Petroleum Co. is building the rig for No. 4 Raznicek, NE cor. NW SW, Section 22-17-4. The rig is under construction for No. 2 Wells SE cor. SW NW, Section 22-17-4. The rig is also being built for No. 3 Wells, SW cor. SE NW, Section 22-17-4. Reynolds and others' rig is being built for No. 1 Lost Springs Townsite, NE cor. NW NE NE, Section 22-17-4. Skelly Oil Co. moved the rig out for No. 1 Raznicek, SW cor. NW NW, Section 22-17-4.

Morris County

Mathews and others made location for No. 1 Walters, SW cor. NE, Section 14-15-5.

Sumner County

Roxana Petroleum Corp. has the machine on the location for No. 1 Fritz "A," NE cor. Tract 5, Oxford Townsite, Section 14-32-2. The rig is being built for No. 3 Rothwell, SW cor. NE SW, Section 14-32-2. Wasson and others' rig is being built for No. 6 Gassoway, NW cor. SE SW, Section 14-32-2.

Roxana Petroleum Corp.'s No. 1 Stout, SE cor. NE, Section 24-31-2, made 200 bbls. from sand at 1,904-71 feet. No. 8 Emerick, SW cor. SE, Section 14-32-2, Oxford Townsite Pool, made 200 bbls. after a shot of 75 quarts in sand at 2,048-2,111 feet. Wasson and others' No. 3 Gassoway, CNL SE SW, Section 14-32-2, came in for 1,000 bbls. from sand at 1,967-2,101 feet after shooting 135 quarts. Roxana Petroleum Corp.'s No. 1 Miller, NW cor. NE, Section 23-23-2, made 219 bbls. from sand at 2,074-2,112 feet.

HUMBLE'S SMITH WELL PROMPTS ANOTHER TEST

By Special Correspondent

MEXIA, Tex., Feb. 11.—The Humble Oil & Refining Co. has made a location for a test on the Tom Jones farm, Roberts Survey, in Anderson County. This location is 1,000 feet west of the same company's No. 1 Felix Smith, on the Roberts Survey, which was reported last week as flowing 83 bbls. a day through 2-inch tubing from sand at 3,712-16 feet.

In Kaufman County, Barney Carter was drilling in hard chalk below 1,850 feet in No. 1 McMaster, Pyle Survey.

Alexander & Liles' No. 1 E. R. Jackson, McKenzie Survey, Limestone County, was abandoned at 3,197 feet, with no showing of oil or gas at any level. W. G. Harrison and others' No. 1 Williams on the Varella Survey was at a total depth of 2,909 feet where a test was made, the liner filling up about 80 feet with oil. Casing was set at 2,715 feet and the hole tested, but it was dry. It was then drilled to 2,909 and 200 feet of liner was run. It was decided after the second test to pull the liner and drill deeper. This is the only active test in Limestone County. Hunt and others' No. 1 Williams, Varella Survey, was shut down at 2,147 feet and Dillon & Hammond's No. 1 Fenner, Hopkins Survey, was shut down at 2,931 feet.

O'Byrne and others' No. 1 Hamilton, Bahm Survey, was drilling in shale at 1,816 feet. De Armand Brothers and others' No. 1 Murphy, Taylor Survey, was dry and abandoned at 2,370 feet. Pipe was set at 2,280 feet. Alexander & Liles' No. 1 Mrs. Humphries, Autrey Survey, was dry and abandoned at 3,100 feet.

THE WICO MAGNETO

IS STANDARD EQUIPMENT ON THESE ENGINES

SUPERIOR

BESSEMER

TITUSVILLE

REID

OILWELL

FRANKLIN VALVELESS

EMSCO

WEBER

FOOS

PATTIN

BOVAIRD & SEYFANG

UNION TOOL

MARION

HERE are a few of the gas engines that offer the new self-lubricating Wico Magneto as standard equipment. No magneto oiling or adjustment needed! No danger of over-oiling or under-oiling!

Specially designed pads of highly absorbent felt hold the oil supply in the improved Wico Magneto. Wicks carry the oil to any surface needing lubrication—in just the right quantity.

WICO
ELECTRIC COMPANY
SPRINGFIELD, MASS.

YOUR OLD WICOS CAN BE CONVERTED

WICO ELECTRIC COMPANY
Springfield, Mass.

Send me full information on the improved OC Wico Magneto and details of how old Wicos can be converted.

Name .....
Company .....
City .....
County .....
State .....

35 CENTS a line first insertion; 25c a line each additional insertion. Cash in advance.

CLASSIFIED WANTS

CREATE AND BUILD BUSINESS

MAIL your advertisement now. It will be published next week. Cash with order.

FOR SALE—EQUIPMENT

USED LINE PIPE AND CASING FOR SALE

7—25-Hp. used gas engines.
10—6-in. standard rigs.

15,000 ft. 5⅜-in. used casing.
15,000 ft. 6⅝-in. used casing.
10,000 ft. 8¼-in. used casing.
5,000 ft. 10-in. used casing

75,000 ft. 3-in. used line pipe.
50,000 ft. 4-in. used line pipe.
20,000 ft. 6-in. used line pipe.
For immediate shipment from our Texas yards.
KEYSTONE PIPE & SUPPLY CO.
607 Holmes Bldg.,
Fort Worth, Tex.

FOR SALE—EQUIPMENT

5 Dean Triplex Pumps, 5 by 8.
1 No. 2, 1 No. 5, 1 No. 6, 2 No. 7, 1 No. 10, 1 No. 11, 1 No. 12 Sweetland Oil Filters.
Two 10-inch S. Roturbo Centrifugal Pumps. Six 10-inch S. Centrifugal Pumps. Steam Turbine.
Storage Tanks. Send for list
Send us your inquiries.
We buy your surplus equipment.
CONSOLIDATED PRODUCTS CO.
15 Park Row, N. Y. C. Barclay 0603

LARGE USED PIPE
MACHINE FOR SALE

Twelve-inch Wieland Pipe Threading and Cutting Off Machine made by Standard Engineering Company, Ellwood City, Pennsylvania. Used not over 30 days.
CENTRAL SUPPLY COMPANY,
Little Rock, Arkansas

EQUIPMENT FOR SALE

1—Each No. 3 and 5 Roots Rotary Blowers.
1—No. 2 ditto direct conn. to 8x8 Troy Steam Engine.
1—4½x4½, 500 RPM Gardner-Rix Air Compressor.
1—1-in. Worthington Horizontal Duplex Piston Displacement Meter.
2—3-in. Empire High Pressure Oil Meter.
2—4-inch Bassler Liquid Meter (New).
2—6-in. Davis Supersensitive Relief Valves.
2—Type SD 8x6x4 Kinney Rotary Pumps direct conn. to 8x8 Troy Steam Engine (New).
5—14x3½x12 Union Hydraulic Pressure Pumps, Single Cylinder.
1—12-in. Worthington Centrifugal Pump.
2—Peabody Combination Gas & Oil Burners.
ALL ABOVE MATERIAL, EXCEPT ITEMS MARKED NEW, USED, BUT IN GOOD CONDITION.

Address Purchasing Department, P. O. Drawer "D," Houston, Texas.

TANK CARS FOR LEASE

Will lease twenty 10,000 gal. dirty cars for period of six months. Lemont Refining Co., Lemont, Ill.

SPECIAL
4" O. D. GAS LINE
Welded in 35' lengths
16 MILES LONG

Made from 4" O. D. Tubing; weight 5½ lbs. per foot. Material cleaned, cut with plain ends; A-1 in every respect. Located in Louisiana. Special price for quick sale.

STANDARD RAIL & STEEL CO.
Bell Telephone Bldg.,
St. Louis, Mo.

FOR SALE OR TRADE—Large quantities of reconditioned pipe, casing, engines, boilers, drilling tools and other oil and gas well supplies, always carried in stock. Write for our list, we can save you money. LEE MORRISON SUPPLY CO., Bartlesville, Okla.

FOR SALE—EQUIPMENT

FOR SALE—Tents and camp equipment, new and second hand. Lowest prices. Write us about your needs. Schaefer Tent and Awning Co., Denver, Colo.

FOR SALE—A Diamond Core Drill, or will contract to do core drilling.
W. S. BRENNAN,
Prudential Hotel,
San Antonio, Texas.

FOR SALE — One Bravo belt driven Sullivan Core Drilling outfit with necessary equipment and carbon. First class condition; attractive price. Call Mr. Harvey or Mr. Labaugh for particulars at 3-8178 or 414 Mid-Continent Bldg., Tulsa, Okla.

BATTERY OF 2—300 H.P. each, Atlas Water tube boiler, each with 120-4"x 18' tubes, 2-36" Diam. x 84" drums, 1-24" diam. x 84" drum, full flush front, Wright water columns steam gauge, safety and blowoff valves and all auxiliary fittings, oil for fuel. Mfd. by The Atlas Engine Works, Indianapolis, Ind.

Battery of 2—350 H. P. each Heine Water tube boilers, each 202-3½"x18' tubes, 4-36"x18' horizontal steam drums, full flush front, with water columns, steam gauges, safety and blowoff valves, and all auxiliary fittings, oil for fuel. Mfd. by Heine Safety Boiler Works, St. Louis, Mo.

350 H. P. Heine Water tube boiler, 202-3½"x18' tubes 2-36"x18' Horizontal steam drums, full flush front with water columns, steam guage safety and blowoff valves, and all auxiliary fittings, oil for fuel. Mfg. by Heine Safety Boiler Works, St. Louis, Mo.

9—150 Horse Power Shell Return Tubular Boilers, Erie.
J. GOLDBERG & SONS, INC.
7500 Independence Avenue,
Kansas City, Mo.

FOR SALE
2,000 ft. 10-inch. used line pipe. P. E
30,000 ft. 6⅝-in. used gas line casing. P. E.
8,000 ft. 8-in. used line pipe.
50,000 ft. 4-in. used line pipe.
100,000 ft. 2-in. used line pipe.
STROUSE PIPE & SUPPLY CO.
Fostoria, Ohio

TANK CARS

3—8,000 gal. class 2 tank cars, immediate shipment.
HYMEN-MICHAELS CO.,
Ry. Exchange Bldg., Peoples Gas Bldg.,
St. Louis, Mo. Chicago, Ill.

PIPE MACHINE FOR SALE—Used No. 12 Duplex pipe machine capacity 4" to 12½"—Taken in exchange on larger machine—Now in Tulsa. Price right for quick sale—Manufactured and for sale by BIGNALL & KEELER MACHINE WORKS, EDWARDSVILLE, ILL.

FOR SALE
GASOLINE PLANT EQUIPMENT

Engines, compressors, tanks, fttings and all other gasoline plant equipment. Phone 3-7543. 402 Central National Bank Bldg., Tulsa, Oklahoma.

BUSINESS OPPORTUNITIES

ASSOCIATES WANTED—I have an 80-acre lease in Shackelford County, Texas, surrounded by production, on which I will drill 3 wells 750 feet deep. Lease and proposed development $6,000, any part of which I will sell. Not a promotion but a development partnership. Wire, write or call for particulars. E. L. STRATTON, 1,604 Fort Worth Nat'l Bank Bldg., Fort Worth, Texas.

RAISE MONEY
ENLARGE YOUR BUSINESS

New or Old. Do you need capital for Oil, Mining or Manufacturing Development? Outline your proposition in CONFIDENCE, for suggestions. Ask for FREE folder. Tells how to raise money. Small cost. Wire or Write. FAULTLESS SERVICE, Desk 2J, Quincy Bldg., Chicago, Ill.

WANT SOME ONE to drill for share; lease near Acton Pool, Logan Co. Diagonal offset now drilling. Would sell lease. Dr. C. J. Barker, 800 Main, Kaw, Okla.

BUSINESS OPPORTUNITIES

WANTED
NATURAL GAS AND CASINGHEAD PLANT. Must have net income 1927 not less than $200,000. Will pay cash. Address
P. J. MINCK,
720 South Kenosha Ave.,
Tulsa, Okla.

LEASE OWNERS, attention: I will drill off-set to your acreage for part of the acreage, but must be new proven field close to production; give full particulars. Address operator, 4168 Eaton Avenue, Kansas City, Kans.

FOR SALE—The only exclusive gents' furnishing goods store in Eagle Pass, Tex., with long established cash trade. Goods, fixtures, everything up to date. $18,000, two thirds cash. L. Wueste, P O. Box 183, Eagle Pass, Tex.

WANT WET GAS contract for small plant compression or absorption. Box C-151, The Oil and Gas Journal, Tulsa, Okla.

WANTED
Oil Leases Royalties Production
Lands with good geology our specialty. Send us your blocks with full information, description, geological reports and your proposition.
PETROLEUM SERVICE CORP.,
232 Steel Bldg., Denver, Colo.

FOR SALE—⅛ interest in producing, refining and marketing of gas and oil refined products, 700 acres old settled production, plenty of gas, refinery capable of treating 100 bbls. per day, local market for products, business four years old. Party buying must be able to operate refinery and market products or care for production. Investment required $7,000; to right party only. Address Box 183, Chelsea, Okla.

MR. WILDCATTER

Do you need money to finish or go below contract depth? We may be able to assist you, write stating location and depth of well, kind of rig, amount of acreage, condition of hole, contract depth and all other information possible. Send geological map and report if you have one. Box C-33, The Oil and Gas Journal, Tulsa, Okla.

OVER LOADED with mining claims. Some look like future big mines. Fine property for organizing a big Corporation. C. J. Greene, Sells, Ariz.

MR. CONTRACTOR. Let us put your idle Rotary Tools to work for an interest and acreage worth while. Will bear investigation. Give location and condition of tools first letter. Address Box C-243, The Oil and Gas Journal, Tulsa, Okla.

LET US Finance your Bond Issues, from one million up, on Gas plants or Gas pipe lines. Rose Mfg. Co., 23 Duane Street, New York, N. Y.

OIL PRODUCTION WANTED
Oil and Gas—Sales, valuations, management, development and operation of properties in all leading fields.
KARL F. DIVINER
2727 Fifth Avenue, Beaver Falls, Pa.

INDUSTRIAL SITES
Calumet District
Excellent locations on belt lines or water any number sq. ft. up to 600 acres exclusively controlled by
B. E. PETERS,
77 W. Washington St.,
Chicago, Ill.

CAPITAL—An experienced, dependable broker with following will aid in financing a worth-while project. Address B W, 810 Broad Street, Newark, N. J.

$65,000 CASH buys 100,000 shares preferred, par value $1, in a $250,000 corporation, and gives as a bonus, title to one-half interest in $120,000 clear real estate. Men of financial and organizing ability only. Detailed information furnished. Address NARECO, The Oil and Gas Journal, Tulsa, Okla.

BUSINESS OPPORTUNITIES

DRILLING CONTRACT desired on percentage basis. Full ⅞-200 A. Sec. 30, Blk. 16 University Lands, Pecos Co. 20 A. Blk. 64 Halff Ranch Crockett Co. Almost directly across river from Yates discovery well. M. Ferrick, 120 E. 23 St. Chicago, Ill.

ASSOCIATES WANTED—In the last three issues of this Journal, I offered interests in 80 acres and 3 wells in Shackelford County, Texas. Monday the first of these came in a splendid producer. Those who joined me are in line for 50 for 1, possibly 1,000 for 1. Am thoroughly experienced and don't intend to make any mistakes. Am about drilling another superb lease. If you have money and want a square deal, with enormour profits in view, ask for particulars. E. L. STRATTON, Fort Worth, Texas.

MANUFACTURERS REPRESENTATIVE

Wants an additional line sold to producing end of petroleum industry. Represents at present three well known manufacturers and would like to get in touch with a fourth one. Works the field actively and well known to superintendents and purchasing agents. Box C-201, The Oil and Gas Journal, Tulsa, Okla.

MONEY RAISING

DO YOU NEED MONEY for organizing or financing oil or mining deals? Write 136 E. 13th, Oklahoma City, Okla.

FINANCE YOUR OWN project with shares bonded. Quickest, most satisfactory known method of raising capital. Information free. Bankers Interstate Security. Electric Bldg., Denver, Colo.

IF YOU NEED MONEY
We have a way of raising it.
We have had considerable experience in selling of securities of high class organizations. We will not consider your proposition if it's questionable or promotional, only those have been established for some time and need additional financing, for expansion purposes and whose earnings warrant additional money to be put in the business.
UNITED BROKERAGE COMPANY,
145 North Clark St.,
Chicago, Illinois.

OIL INDUSTRY PRINTING

CONSUMERS' LEDGERS

We are prepared to furnish from stock standard forms of gas meter Consumers Ledgers. Sample forms and quotations on request. First-class material and workmanship.
DERRICK PUBLISHING CO.
Oil City, Pa.

NEW CATALOGUE OUT NOW
Oil Field Legal Blanks

Leases, assignments, releases, township books, well records, etc. Request on your letter head gets free catalog. Olds Press, 215 East Third St., Tulsa, Okla.

CLASSIFIED advertisements in this section do pay well in money and in extended business relations. This has been proven by the continual advertising that we receive from the men in the oil industry, everywhere.

LAWYERS

ROBERT HARVILLE
Lawyer
Practice in U. S. Courts Only.
1430 S. College, Tulsa, Okla.

PATENT ATTORNEYS

REGISTERED PATENT ATTORNEYS
United States and Canada

Before disclosing your invention to anyone, send for blank form.
Evidence of Conception.
Bulletin "How to Establish Your Rights" and complete information free.
LANCASTER & ALLWINE
240 Ouray Bldg., Washington, D. C.

PATENTS—Oil well cases a specialty. Reliable services by an experienced practitioner devoting personal attention to each case. References to oil well clients in Tulsa. B. P. Fishburne, Patent Lawyer, 550 McGill Bldg., Washington, D. C.

35 CENTS a line first insertion; 25c a line each additional insertion. Cash in advance.

CLASSIFIED WANTS

CREATE AND BUILD BUSINESS

MAIL your advertisement now. It will be published next week. Cash with order.

POSITIONS WANTED

ACCOUNTANT—Wide experience including eight years with large supply and producing concern. Best references and legitimate reasons for desiring change. Box C-155, The Oil and Gas Journal, Tulsa, Okla.

YOUNG MAN, 27 years old, five experience in office and field with producing and pipe line companies, desirous position either in this country or South America. Address Box C-152, The Oil and Gas Journal, Tulsa, Okla.

GEOPHYSIC GEOLOGIST wants position with oil firm. Satisfaction guaranteed. Call 299. Box 541, Sand Springs, Okla.

A WOMAN EDUCATOR with record of outstanding achievements is willing to establish schooling and to supervise the teaching in a new oil region that lacks good public schools. Could provide for either small or larger number of children whose parents are able to give them superior educational opportunities. Address C-251, The Oil and Gas Journal, Tulsa, Okla.

HELP WANTED

HELP WANTED

Join the California Employment Association and get a better job. Membership fee only one dollar. JOIN TODAY! P. O. Box 1152 San Francisco, Calif.

WANTED—capable man who understands the Oil Refining Industry from the building of the plant to the producing of the refined product. Must be able to invest a small amount in the company. A good proposition to the right party. Address immediately.
MONTANA SOUTHERN OIL and REFINING CO.
Helena, Montana

ENGINEER SALESMAN

A permanent position for an experienced engineer with experience selling boiler room specialties. An opportunity to capitalize on your engineering knowledge and increase your income. Products are being used by some of the largest steam users in the country. State your experience.

THE NORTH AMERICAN FIBRE PRODUCTS CO.
Cleveland, Ohio

CLASSIFIED advertisements in this section do pay well in money and in extended business relations. This has been proven by the continual advertising that we receive from the men in the oil industry, everywhere.

CONSTRUCTION ENGINEER

Experienced on pipe still construction and operation for European service of approximately one (1) year's duration. Must speak French or German. Give complete information in reply. Box C-252, The Oil and Gas Journal, Tulsa, Okla.

WANT EXPERIENCED, dependable broker or salesman with following to aid in selling leases, including offsets, to drill wildcat well; have good geology. Exceptional deal for right party. Address E. V. Cole 5213 Columbia Ave., Dallas, Texas.

ADDRESSES WANTED

ANYONE KNOWING the whereabouts of John R. Gray, formerly of Goose Creek, Texas, kindly communicate with E. B. Miller, 633 Tulsa Trust Bldg., Tulsa, Okla. Phones 4-0619 or 3,2353.

MANUFACTURING MACHINISTS

MACHINE WORK — CASTINGS
Machined to your drawings. Gears, Machinery designed and built.
Modern Facilities—Prompt Service.
Reasonable prices. Send for our booklet.
GENERAL ENGINEERING AND MFG. CO. ST. LOUIS, MO.

CRAGO CUT GEARS

Worthy of your confidence. General machine work. 1416 Walnut, Kansas City, Mo. Phone Harrison 7660.

LEASES—PRODUCTION

NEW MEXICO oil leases; Lea, Eddy, Chaves, Union, Quay and all other active counties; complete list and map on request. Orcutt-Harris & Co., Colcord Bldg., Oklahoma City, Okla.

NEW MEXICO—Leases in Lea and Roosevelt; cheap royalties in Roosevelt and Guadalupe; leases in any county; information regarding New Mexico developments. William U. Tate, Franciscan Hotel, Albuquerque, N. M.

FOR QUICK SALE—80 acres—W ½ NW ¼ sec. 34, twp. 11N., rng. 1W, Okla. Co., Okla.; only $17.50 per care; no encumbrance; owner retain one-half royalty. Leased to Cosden Oil Co. Nothing like it for the money. Safe play for conservative investor. Extensive program for oil developments 6 miles west. W. G. Mappes, 707 Colcord Bldg., Oklahoma City, Okla. Office phone W-4297. Home phone W-2711.

WRITE FOR PRICES on leases, royalties and farm lands on Sweetgrass Arch.
KEVIN-SUNBURST HOLDING CORP.
Box 313, Shelby, Mont.

FOR SALE—Choice leases adjoining I. T. I. and Phillips blocks Oklahoma and Cleveland counties. "Hot spot" for future developments. W. G. Mappes, 707 Colcord Bldg., Oklahoma City, Okla. Office phone W-4297. Home phone W-2711.

LEASES AND ROYALTIES in all active counties of Oklahoma. Buyers communicate with Maude Teller, Equity Building, Oklahoma City, Okla.

FOR LEASES or drilling blocks. Box C-153, The Oil and Gas Journal, Tulsa, Okla.

FOR LEASE—240 acres of land, Anderson County, Kans., for oil and gas; oil found in two wells at 575 feet. Address W. M. Dary, 2547 Troost Ave., Kansas City, Mo.

WILDCAT acreage and excellent block of 10,000 acres. 1644 West 15, Oklahoma City, Okla.

FOR SALE
Lease 40 acres Edgerly, La., oil field, Section 30-9-11.
Lease 160 acres Allen Parish, La. Section 12-7-7.
In Fee, 1,500 acres Calcasieu Parish, La., Sections 23, 24, 25, 26, 8S. 8W.
Will sell all for $24,000 cash.
SMITH BROTHERS
1023 E. 65th St.,
Chicago, Ill.

WE ARE BOOKING orders for and securing acreage ahead of development on various well defined structures in Western Kentucky.
May we have the pleasure of serving you? Look Box 903 Evansville, Ind.

FOR SALE BY OWNER OF LAND
Oil and Gas leases or half royalty; some valuable, some cheap, situated in 5-8 Allen Oil Field, Pontotoc Co., 5-8 Chickasha Gas field, Grady County, 5-10 Hughes County, good prospect. 4-14 Atoka County, fair prospect. 5-14 Chocataw County, fair prospect. Also, other valuable stuff not here listed. Can also furnish other at reasonable figures in any county in Oklahoma. Correspondence invited. Box 684, McAlester, Okla.

640 ACRES Texas fee, 6 miles drilling well. Have 3,700-ft. formations. Box 1462, Buena Vista, Miama, Fla.

WILL BUY BLOCK leases near production; will consider "wildcat" if geology favorable; describe and locate. Box C-250, The Oil and Gas Journal, Tulsa, Okla.

DEFINING Oil and Gas structure that will produce and locating—ten per cent. Box 302, Tonkawa, Okla.

FOR SALE or will make a drilling contract on a block of 1,000 acres of oil and gas leases in the Shale Gas Territory, Wilson County, Kans., good market for gas, low pressure line, company will come to the wells for the gas. Address Box C-253, The Oil and Gas Journal, Tulsa, Okla.

SELL oil lease on two farms near Hinton. Near drilling block. $2 acre. Box 4, Hinton, Okla.

LEASES—PRODUCTION

OIL LEASES and royalties. Ector, Crane, Pecos, Reeves, Ward, Upton and Winkler Counties; buy or sell. C. H. C. Anderson, 712 Linz Bldg., Dallas, Tex.

FOR SALE—Leases, Oil Production, Asphalt, Limestone and Other Mineral Lands. W. P. Harley, Bowling Green, Ky.

"IN THE TREND"
Southeastern New Mexico and West Texas counties — Lea, Eddy, Chaves, Gaines, Andrews, Winkler, Loving, Ward, Culberson and Pecos Counties, oil and gas leases, royalties and drilling blocks. We buy and sell. F. S. Blackmar, P. O. Box 541, Roswell, N. Mex.

WINKLER—PECOS COUNTIES
Leases and Royalties
W. S. PATTERSON
Pecos, Texas

WEST TEXAS Leases, drilling blocks and royalties bought and sold. Company and individual land requirements supplied. Cheap leases available now. Small and large buyers solicited. World Oil Co., Land Department, Fort Worth, Tex.

LEASES, royalties and drilling blocks bought or sold, West Texas. Wire or write Cope and Fox. 411 San Angelo Nat'l Bank Bldg., San Angelo, Texas.

SOUTHWEST TEXAS — WINKLER, Loving, Reeves, Ward, Pecos, Culbertson Counties.
Drilling blocks, Leases, Royalties.
Ranches in fee.
H. F. Anthony, Pecos, Tex.

ADVERTISING RATES

	1 Time	2 Times	3 Times	1 Mo.
3 lines	1.05	1.80	2.25	3.30
4 lines	1.40	2.40	3.40	4.40
5 lines	1.75	3.00	4.25	5.50
6 lines	2.10	3.60	5.10	6.60
7 lines	2.45	4.20	5.95	7.70
8 lines	2.80	4.80	6.80	8.80
9 lines	3.15	5.40	7.65	9.90
10 lines	3.50	6.00	8.50	11.00

(Six words usually make a line.)
Compute white space at the above rates.

Mail your advertisement to

THE OIL AND GAS JOURNAL

Tulsa, Oklahoma

OWNER will lease 40,000 acres to party who will drill on promising untested structure in Northern New Mexico. Kenneth A. Heron, Chama, New Mexico.

STATE OIL AND GAS leases in twelve New Mexico counties. Real opportunity. Wm C. Uphoff, Decatur, Ill.

LAND, leases, royalties for sale Okla., Texas. Waltman, Barnsdall, Okla.

FOR SALE—Block 500 acres. Prolific gas territory near Silver Creek, Chautauqua County, N. Y. Price $2,500. G. C. Holmes, 23 Peach St., Jamestown, N. Y.

FOR SALE—Oil and gas lease, forty acres, in 36-24 south, 32 east, Lea County, N. Mex. W. C. M. 1041 Aberdeen Place, St. Louis, Mo.

3000 ACRES, $1.00 AN ACRE
Lea County, New Mexico, State lands. New 5 year Oil and Gas Leases rental begins 1928, favorable location in line with development and wells drilling on 2 sides, De Baca County, 640 acres, $500.00. James Murtha, 336 Fourth Ave. Pittsburgh, Penna.

LEASES FOR SALE in West Texas, Martin, Glasscock, Midland, Andrews, Gaines, Borden Counties. Pollock and Eidson, Box 409, Stanton, Texas.

ROYALTIES—PRODUCTION

CALIFORNIA AND TEXAS royalties, leases and production. Must be sold. Arthur P. Moran, 1010 Detwiler Bldg. Los Angeles, Calif.

HAVE $50,000 cash for good producing royalties preferably Oklahoma, Kansas and Louisiana; settled or semi-settled. Give full particulars. Address Box C-190, The Oil and Gas Journal, Tulsa, Okla.

BUYERS AND SELLERS of Mid-Continent oil Royalties. Inquiries invited. Joe P. Crawford & Co., Petroleum Bldg., Oklahoma City, Okla.

WEST TEXAS ROYALTIES
FOR SALE
Of prime consideration is the geological work accompanying each sale.
J. F. MARION OIL COMPANY
1213 Magnolia Bldg., Dallas, Texas

ROYALTY: 1/32d or less, whole or part, 1,600 acres in the Pecos country, direct trend from deep test showing large quantities oil at 1,100 feet. Royal buy. $4 base. E. L. STRATTON, Fort Worth, Tex.

FOR SALE—Royalties in Lost Springs oil field, Marion, Co., Kansas. H. R. Hurd, Chase, Kansas.

$50 OR MORE you may own perpetual deeded royalty Pecos, Winkler and other active West Texas counties. Drilling bulletin, title assurance and resale service features of "NATIONAL ROYALTIES." Send your address. National P. & R. Company, Box 1214-B, Wichita Falls, Tex.

RANCHES AND FARM LANDS

OIL & TIMBER LAND
3,500 acres alluvial land with 2,500 feet hardwood per acre in fee, La Salle Parish, edge of Urania Oil Field. Price $7.50 per acre, ⅓ cash, balance terms. W. A. Stephens, Realtor, P. O. Box 555, Shreveport, La.

7,000 ACRES IN SOLID TRACT
Thirty miles from Houston, Texas, $25 per acre. Fertile land, suitable for figs, citrus fruits, and vegetables, in country of opportunities. Plenty of rain no irrigation necessary. F. C. Nietert, Newkirk, Okla.

153 ACRES quarter mile from city limits Kansas City, Mo. Choice for showy closein stock farm and country home. J. S. Hughes, 711 Lafayette St., Kansas City, Kansas.

THESE classified advertisements bring results.

DO YOU CHOOSE
To buy blue stem pasture land in Flint Hills, pays 6 per cent net on investment or Western Oklahoma, Colorado, New Mexico breeding ranches. If so write J. Willis Smith, 308 E. Birch, Arkansas City, Kans

REAL ESTATE

FOR SUBDIVISION—160 acres near proposed industrial center. Joins Atlanta, Ga., Athletic Club links. East Lake. Box 1682, Miami, Florida.

FOR SALE—MAPS

WE HAVE a limited number of Books containing a County Map of each and every County in Texas together with a Thirty Six Inch Map of the State of Texas, showing all the Oil Fields in the State. These Maps are 14x18 inches, showing the Section and Block numbers of every Survey in the State and will be bound in a nice "Loose Leaf Binder." Price $25.00 each. Order now, as we only have a limited number. Sullivan and Lynch, 808 Daniels Bldg., Tulsa.

INCORPORATIONS

DELAWARE incorporators. Charters, fees small, forms. Charles G. Guyer, 901 Market St., Wilmington, Del.

CHARTERS—De aware best, quickets, cheapest, most liberal. Free forms. Colonial Charter Co., Wilmington, Del.

SAVE TIME and money by using The Oil and Gas Journal classified wants.

Market Improving in Chicago Area

Fair Business for the Season at Opening of Week. Orders for Prompt Shipment for Present Needs

By J. B. Waldo

CHICAGO, Feb. 13. — The market showed some improvement in the demand for gasoline and a fair business for the season was generally done Monday. There was some buying against future wants but the bulk of the orders are for prompt shipment to supply present needs. The price range for U. S. Motor gasoline was firm at 6 to 6⅛ cents, several refiners holding firmly at the top price with others taking some business from regular accounts at 6 cents. There seems to be little difficulty in selling at these prices. The higher tests were firm and in fair demand, most business being entered at 6½ cents for the 400 endpoint and 7 cents for the 375 endpoint.

Kerosene moved slowly but was firm. The mild weather still continues and the demand for all grades of furnace oils has dropped to some extent but supplies are well in hand and prices maintained. We should have at least one more cold spell during the month and refiners are expecting a good demand when it comes but not higher prices for zero gas oils or distillates. The supply, in sight, of the zero fuel oils is so very small that the market for these oils is very strong and a real cold spell might advance prices another 5 cents. The industrial demand showed no change today and while the prices on the heavy fuels with an ordinary cold test are firmly held the strength comes more as a reflection of conditions in the zero oils than from the position of demand and supplies.

The weather over the week-end was warm and bright and a very large number of autos were out. Country dealers report that road conditions are very bad from early thaws and much rain. The local prediction is for rain tonight and Tuesday.

Price Trend Upward

The selling price of gasoline moved upward slowly but steadily all of last week, and at the close there was very little of the U. S. Motor gasoline available to spot buyers at less than 6 cents Group 3. A number of the larger refiners had advanced their price for this grade to 6⅛ cents with an occasional refiner asking 6¼ cents. The average market at the close of the week was 6 cents with both refiners and marketers. There is some gasoline still coming on previous purchases at prices that ranged as low as 5⅝ cents but the owners of these goods were willing to make the 6-cent price. The demand for the higher gravities was quiet for the most part and the prevailing prices all last week were 6½ cents for the 60-62 400 endpoint and 7 cents for the 64-66 375 endpoint.

There are so many of the special anti-knock motor fuels offered, each refiner having his own brand and some of the marketers a special product of their own that there is less prominence given to these products than when they were comparatively a new thing. There is a general expression of the opinion that there is some room for improvement in most of them. One prominent Chicago marketer has introduced a special benzol blend which is being favored by some of the most careful of the larger jobbers. The price seems rather high but the past season has proved that there are a large number of motorists willing to pay a higher price for gasoline if they can secure a really better quality. There must be, of course, a limit to the price that can be asked, but the success of some dealers during the past season in selling liberal quantities of 68-70 350 gasoline at 5 cents above the normal station price shows there is a demand for good motor fuel which will show exceptional engine performance. The coming of the warmer weather may result in a return by some to the regular U. S. Motor grade but this is not yet proved to be the case.

Jobbers' Stocks

Regarding jobbers' stocks and the buying by dealers for storage there is a wide divergence of opinion. Some authorities are advising their followers to purchase conservatively in excess of their immediate requirements and some of the best posted sellers in talking with their customers both in the city and in the latter's places of business have advised moderate purchases for storage, provided the dealers can readily finance the transaction. Generally there is a desire not to have the dealers overbuy now for their future needs. It is a fact that the actual consumption, while showing a gradual increase from month to month from now on with usual weather conditions will not be really heavy for three months yet, and excessive purchases will only defeat the object if it be to strengthen the market. Extra supplies bought now will have to be carried and will be saleable just at the time when the increased demand should be felt by the refiners. For several seasons as the result of large buying in the early spring or late winter months there has been a weaker market developed along in April because the dealers had these extra stocks to move. Then if the refiners have increased their runs they find themselves burdened with stocks which are slow to move and have been moved as they were last year at prices that demoralized the market. The refining capacity and the supply of crude is so ample there is not the necessity for the accumulation of stocks that was the rule some years ago.

Bad in Ohio and Michigan

The situation in the debatable States of Ohio and eastern Michigan is still very bad for the seller of Group 3 gasoline. This is true to a less extent in other states east of the Mississippi River where the central and southern refiners possess decided advantages in cost of delivery to the trade in these localities. Some of the prices quoted were made early in the month before the upward movement began. One large Cincinnati buyer reported a purchase over February at 8.30 cents delivered. The freight rate from Group 3 to this destination is 3.40 cents per gallon against 1.75 cents per gallon from the actual shipping point. This delivered price would net the Group 3 refiner 4.90 cents per gallon against 6.55 cents to the Mississippi River refiner. The statement is made that gasoline was sold for delivery at Detroit at a price range of 5.05 to 5.15 cents Group 3 basis, the sellers being Toledo plants. Some of the towns in the eastern part of Michigan have bought on the basis of 5.20 cents Group 3. Early last week sales were made to local dealers from a small close-by refinery at 5⅝ cents and later at 5¾ cents but the management decided to try to get the advantage of its quick delivery and other advantages and the price was advanced to 6 cents Group 3 basis. The central refineries are generally operating at or near capacity and find a ready market for their product to the east of their location. As the back haul charges are heavy by comparison they are not pushing their business to the west of Chicago, although some of the refiners are developing the delivery of gasoline by trucks and are reaching out in this way to a considerable distance from the plant. The natural gasoline market has been strongly held and prices are a little higher for the C grade due to refinery purchases as the dealer demand is not active in this market.

Kerosene in More Demand

There is a better feeling regarding kerosene and a little more demand. Several refiners are holding firmly at 4¼ cents and others ask 4⅜ cents. The supply at lower prices than 4¼ cents is very limited if there is any to be had. The spring season for farm work depends largely on the weather or rather the condition of the fields. If the land is fit to bear the weight of a tractor or a team the farmer will plow as soon as the frost is out of the ground and this usually takes place in the southern part of the territory early in March. The demand now is wholly for the 41-43 gravity and there is very little call for the 42-44 gravity, so little that few even quote this grade at present.

Distillates Fair

Distillates have moved fairly well but generally there is complaint that the demand is not what was hoped for. The tendency all the season has been away from the lighter furnace oils to the gravities below the regular gas oil. In the distillates the demand is for the 38-40 gravity. The majority of distributors have fair sized stocks and if there is no increase in the consumption that would only follow colder weather, they will order carefully from now on and gradually decrease their stocks. The prevailing market for a good, low flash 38-40 distillate has continued at 3¼ cents with occasional sales at 4⅜ cents by some refiners to their regular customers. There are several refiners who have a distillate that is carefully treated and runs very uniform for which they have a steady demand at one-quarter cent above the market. Their regular customers find this grade of furnace oil gives satisfaction and can be relied upon and they stick to the known product. It takes a little time to build up a demand that can be relied upon, but it has paid these refiners to do this and certainly the extra price as well as the fact that there is a dependable demand will make up for the extra expense and care involved in the refining of such an oil.

Gas Oil Firm

The gas oil market was firmly held last week with only a fair demand for any grade of this product. The gas companies have not bought as heavily as they would if the winter had been more severe. It has not been necessary to use the gas log in the fire place or the kitchen heater to supplement the ordinary heating plant in the home. The result is their business has not been as large and they have not had to use as much oil. The manager of one large gas plant was asked if they used gas or fuel oil and replied that they could use either but they preferred to use gas oil. When the spread between gas oil and fuel oil was large enough they would turn to fuel oil. Few sales were made to the gas companies last weeek, none being reported of any material amount. The usual asking price by refiners was 2½ cents in quantities and 2⅝ cents was generally quoted by tank car dealers at resale in smaller amounts.

Price Situation

The situation at the close of last week was that there was a demand from dealers in both tank car and tank wagon lots that had not been satisfied, for the zero cold test oils, and that there was a lesser demand from industries for both zero and the ordinary grades with regard to cold tests. Prices, on the latter were uncertain in a general way, the 24-26 gravity being quoted at 85 cents and the zero oil of the same gravity at 95 cents and $1. On the 18-22 the usual quotation for high cold test oil is 80 cents and for the low or zero cold test 90 cents with the qualification, "if it can be had." In other words there is so little zero oil in sight that the buyer is being asked if he really must have a zero oil with this kind of weather and that the spread is so wide he can save a lot of money while the market is in its present condition if he can use the higher cold test. In a number of instances it has it has been found possible to induce the buyer to change his order to one for a higher cold test. Many of the buyers complain that the oils shipped them as zero oils really have a cold test 10 or 15 degrees higher than the zero mark. In fact, the condition predicted for the zero oils has come and found very few if any prepared for it. Of course, one reason is that several important sources of supply have ceased to ship fuel oils. Roxana, Sinclair locally, and the Humble plant at McCamey, have all shipped a vast quantity of low cold test fuel oil to users and distributors in this territory and now that they are no longer accepting any orders for fuel oil and rapidly closing out their present bookings dealers are without an expected source to turn to for their fuel oil. The industrial demand is not showing any great increase. The total of the fuel oil moved may be something greater than it was but the size of the individual orders remains small and the buyers are still ordering for brief periods or in small to moderate sized orders. They are fighting vigorously any attempt to raise prices. Some would be considering a change to coal if the operators and the unions had been able to reach an understanding at the parleys held last week.

The decline in the posted price of Smackover crude came as a great surprise to the trade here. There has been almost no real Smackover fuel oil coming to this market. Since the decline in the crude prices reliable sources have quoted 95 cents f.o.b. Smackover to inquirers in this market. The supply continues to be very limited. Some residual oil from refiners running on Smackover crude have been offered at prices around 80 cents, but it is not desired nor does it compare with the regular crude fuel from the Smackover Field. Reports are made from Detroit that Henry Ford has contracted for fuel oil at 45 and 47 cents per barrel, Group 3 basis, the oil coming from Toledo and Lima. One Detroit man stated that the price was 40 cents for some of the oil, but this is believed to be an error, as more reliable reports are that the price range was as stated. Both these points have very favorable freights into Detroit.

Lub Situation

There seems to be very little change in the lubricating oil situation. One of the greatest complaints made by western refiners is the low prices quoted by some of the nearby plants. It is stated that the same grade of oil is being sold delivered here at the regular price charged by Group 3 refiners f.o.b. their plant. The season for motor oils is under way and some contracting for spring supplies is being done and some buying of stocks by the largest users of compounders. The industrial demand is gradually showing some improvement as the plants strike their stride for the spring production.

Tank Wagon Level

The tank wagon level is being restored as the cut price localities are gradually brought back to normal. The trade as a whole is glad of this and quite a number of the distributors have been eliminated usually through the results of their own activities as cutters of prices.

Market Tone in the East Was Heavy

Gasoline Consumption Less But Greater Demand for Kerosene and Furnace Oil Follows Normal Winter Weather

By N. O. Fanning
New York Bureau, The Oil and Gas Journal, Room 629, No. 101 Park Avenue, New York, N. Y.

NEW YORK, Feb. 11.—The past week has been an usually quiet one in the petroleum markets.

The tone of the markets, if anything, was heavy. More normal winter weather has cut consumption of gasoline somewhat, but has stimulated the demand for kerosene and furnace oil.

As spring approaches oil marketers look forward more hopefully toward the natural improvement in demand, with the expectation that prices, especially of gasoline, will come out of the rut and get back to a more normal basis. In some quarters substantial improvement in prices is expected on the assumption that no new area of crude oil production will materialize before that time, and that the expected gain in demand will naturally create a better condition than now exists.

So far as present conditions are concerned, they do not give much indication of the actual beginning of that improvement which is hoped for. The principal petroleum products are still in ample supply, and refiners have shown no disposition to hold out for higher quotations. Their policy seems to be "all offered at current prices."

The export market is especially quiet. The movement is on a restricted scale. While talk of competition dominates sentiment conditions appear to be fairly well stabilized.

The gasoline market is unchanged from last week, with United States Navy quoted at 8¼ cents at seaboard refineries in tank car lots for the domestic trade. The movement is smaller than it has been for some weeks, probably due to a restricted demand. More liberal receipts of Mid-Continent navy gasoline are also reported. In addition, considerable 54-56 gasoline is said to have come in recently. This is being mixed with natural gasoline for the trade, and is being marketed below the general price level, in some sections.

There has been considerable talk of the big eastern refiners entering the Mid-Continent market for gasoline in recent weeks, but so far there has been no extra large buying of that sort, it is stated here. What buying has taken place has been largely of a routine character. It is pointed out that many of the seaboard refiners have regular connections in the Mid-Continent which they can rely upon more now, instead of going into the open market. Unless the demand should exceed the production of their regular Mid-Continent agents, there would be little or no outside buying.

Eastern refiners are understood to have speeded up their production schedules somewhat and have been running a larger amount of high grade Seminole crude, probably partly in anticipation of the spring gasoline trade. West Texas crude has not been in demand recently. The increased imports of Venezuelan crude have replaced the Texas product to some extent, at least for the time being.

From the viewpoint of gasoline the market is now divided between the normal production of the eastern refineries and the Mid-Continent product. Shipments of California gasoline to the Atlantic Seaboard are at a minimum. Imports of gasoline are so small as to be negligible.

The only unsettling factor in the gasoline situation seems to be the Mid-Continent shipments into this territory, and also the apparent willingness of Atlantic Coast refiners to sell at present low prices all buyers will take. This attitude is supposed to reflect the fact that these refiners believe their gasoline stocks on hand are topheavy.

Kerosene Firm

The kerosene market is more firm, with some refiners reported asking 7⅝ for water white. Most factors are still willing to accept 7½, however. This refers to water white in tank car lots f.o.b. refinery.

Colder weather has helped consumption of kerosene and furnace oil materially. A continued good export demand for kerosene has also stimulated the product. It is possible that a continuance of present cold weather would cause a rise in the kerosene market, which is now regarded as abnormally low, although not so in comparison with gasoline.

Considerable water white and prime white kerosene is now coming in in tanker lots from the Gulf Coast. It is believed there has been some buying in that section by eastern refiners, who are reported to have paid 6¾ for water white and 5¾ for the prime. Water white is in better demand than the other grade, however.

Gas and Fuel Oil

The gas oil market is firm, but the past week shows no change in prices. The movement is only routine, with not a great amount of new business reported.

Diesel oil is in good demand. The consumption is expanding steadily in line with the increased number of motorships making this port. The motorship has invaded the passenger ship to such an extent that shipping men are now predicting the complete motorization in time of this branch of the marine trade. This would mean, of course, the passing of the steam vessel using bunker fuel oil or coal; although there is also a movement toward the utilization of pulverized coal.

A comparison of the efficiency and economy of Diesel-drive and hand-fired coal and pulverized coal burning steam installations is to be made possible in the fleet of the Flannery Towing Line here with the installation of coal-burning equipment in the towboat James H. Flannery, which is to be completed about the middle of March. The company has one Diesel-engined fleet now in operation. The other boats in the fleet are hand-fired coal burners.

Motorship Efficiency

Speaking recently of the efficiency of operation of the new motorship Bermuda, J. C. Blackiston, United States director of Furness, Withy & Co., stated that the new ship used about 225 tons of oil per round voyage, compared with about 400 tons each for the Fort St. George and Fort Victoria, which have only about half the passenger capacity of the new ship. The new vessel, he said, has all the comfort and luxury of the best trans-Atlantic liners and has resulted in a great increase in the passenger business of the Bermuda service.

The bunker fuel oil market here seems to be stabilized at $1.35 a barrel for "C", not including lighterage charge, which is 6½ cents per barrel. Ocean freight rates governing the transportation of fuel oil here seem to have reached bottom, and the absence of any new unsettling production of low grade crude available for this market would indicate that the bunker oil market has reached bottom.

Lubricating Oils

Lubricating oil prices continue firm. Spindle oils and steam cylinder oils are in much better demand now than at any time during the last few months. Prices have not advanced, but the market seems to be shifting to the advantage of sellers.

There has been a slight falling off in demand for red and pale paraffin oils, but not of an alarming extent. Competition is much more keen in this field, however.

One feature of the market for automobile oils is the increasing discrimination on the part of garage and service station operators. This is attributed to a campaign conducted by principal manufacturers of lubricants, pointing out the importance of having good lubricants and of using the correct ones for every purpose. It is also being reflected in the demand for the better grade of oils.

There is no question but that the lubricating oil market is becoming more competitive, however, and that the practice of dwelling on high quality is having its reward as an offset to the situation. Technical advances in the manufacture of lubricants have been so great in recent months that selling on merit is more and more essential.

Paraffin Wax

The paraffin wax market is showing continued improvement. It is attributed almost entirely to a better industrial demand. Refiners here report much bigger sales to jobbers of semirefined and refined wax, especially of the melting points of 130 and above. This improvement is particularly gratifying because it is not seasonal. As a rule the best market is around June or July.

Petrolatum

The market for petrolatum is steady, but without new feature. Prices are unchanged. Dark green continues to command 2 cents a pound.

Export Market

The oil export market at this point is dull. New business is limited. Cased goods alone are moving normally. The best consignment of the week in this division consisted of approximately 120,000 cases of kerosene destined for Calcutta, which is of particular interest in view of the price war now going on in India. There was a continued good demand for cased gasoline and kerosene from Brazil.

The bulk export market was listless. The only shipment during the past week was a small cargo of lubricating oils bound for England.

Paraffin wax was only in fair demand for export, shipments of refined predominating. However, the refined wax export market has been below normal for some time and the outlook is not promising. One cause of this is said to be increasing competition from Poland.

Big Auto Shipments

The big automobile shipments from the United States probably are a good sign from the viewpoint of gasoline consumption abroad. This is especially so in view of the strides made by American manufacturers in the development of low-priced cars.

Exports of automotive products from the United States in 1927 reached a new high record, with a value of $406,007,984, a gain of 20 per cent over 1926.

Situation in India

Calcutta advices say that the oil war in India is developing into a three-cornered contest by the appointment of an Indian representative of The Texas Company, which is planning a merger with the California Petroleum Corp. The fight between the Standard and Dutch-Shell combine is reaching a bitter stage. The latter are conferring with the Indian government on the situation created by the sale of Soviet kerosene and the expected arrival of Russian gasoline, requesting, it is understood, that an import duty is the only way to meet the competition.

Principal Exports

The following table shows principal exports of petroleum and petroleum products from New York during the last three weeks; all figures in gallons unless otherwise noted:

	Feb. 8	Feb. 1	Jan. 25
Gasoline:			
Bulk	.....	4,515,000	5,527,259
Cases	1,540,210	175,240	1,418,750
Kerosene:			
Bulk	.....	2,767,800	.....
Cases	3,284,220	989,730	3,408,410
Gas oil:			
Bulk	.....	.....	.....
Fuel oil:			
Bulk	.....	2,618,932	3,325,770
Lubricating oil:			
Bulk	613,662	4,318,797	.....
Barrels	559,250	424,650	715,848
Cases	75,480	56,900	387,870
Lubricating grease:			
Bbls. (l. s.)	.....	.....	1,086,750
Paraffin wax:			
Bags (lbs.)	471,020	588,720	308,000
Bbls. (lbs.)	112,000	1,149,960	140,000
Petroleum asphalt:			
Bbls. (tons)	.....	.....	1,224

The foregoing figures include all shipments of 500 bbls., 1,000 cases, or over.

Shippers continue took for tanker tonage around the bottom, and many owners of vessels are inclined more to let their vessels be idle than to give in to present rates. The feeling is that any change in the market will be for the better.

Receipts at Atlantic Ports

Receipts of crude and refined oil by tanker at Atlantic Coast ports during the week ended February 8 are estimated at 3,943,000 bbls., a daily average of 563,000 bbls. The feature was an entire absence of imports from Mexico for the first time in years.

Imports from South America, on the other hand, continued at a high rate, totaling 1,147,000 bbls., an average of 164,000 bbls. a day. New York imported 774,000 bbls. of this total, or an average of 111,000 bbls. a day.

Receipts of oil from the Gulf Coast totaled 2,500,000 bbls., an average of 357,000 bbls. a day, the port of New York accounting for 1,002,000 bbls., or 143,000 bbls. a day.

The Pacific Coast contributed 297,000 bbls., a daily average of 42,000 bbls. a day.

Principal speculation over the course of receipts is with regard to how much Mexico will ship this year and how much more Venezuela and Colombia will be able to contribute. It is believed that imports will not be a menace, as transportation facilities out of both Venezuela and Colombia are limited.

The following table shows estimated daily average receipts of crude and refined oil by water at Atlantic Coast ports for the last three weeks; also monthly record for the last 12 months, (figures in barrels):

	Week Ended		
	Feb. 8	Feb. 1	Jan. 25
Gulf Coast	357,000	424,000	189,000
Pacific Coast	42,000	12,000	45,000
South America	164,000	157,000	129,000
Mexico	.....	32,000	50,000
Total	563,000	625,000	413,000

Daily Averages by Months

	Gulf	Pacific	South Amer.	Mex.	Total
1928—					
Jan.	340,000	48,000	137,000	27,000	552,000
1927—					
Dec.	345,000	68,000	146,000	37,000	596,000
Nov.	318,000	62,000	109,000	42,000	531,000
Oct.	314,000	98,000	91,000	38,000	541,000
Sept.	336,000	97,000	99,000	69,000	601,000
Aug.	397,000	90,000	78,000	80,000	645,000
July	406,000	83,000	49,000	78,000	616,000
June	378,000	118,000	47,000	68,000	611,000
May	332,000	58,000	53,000	91,000	534,000
April	388,000	93,000	61,000	69,000	611,000
Mar.	345,000	103,000	81,000	36,000	565,000
Feb.	379,000	89,000	48,000	40,000	556,000

The foregoing figures are based on the carrying capacity of incoming oil-laden tankers.

Effect of Gas Lift on Oil and Gas

Quantity of Gasoline Removed Dependent Upon Partial Pressures of Individual Hydrocarbons. Important to Natural Gasoline Industry

Roy O. Neal

The title of this article may more appropriately be styled the effect of gas lift on the natural gasoline industry, for its operation in economics is as consequential as its physical and chemical results. Probably no other engineering application or discovery has so suddenly affected the economic structure of the petroleum industry.

This investigation was initiated because of the confusion made by some who have studied the problem. One writer says that the effect of gas lift on oil is uncertain. Another authority when referring to gas lift states "when a natural gasoline extraction plant is in operation, a greater volume of gas and often a richer gas is provided than is produced by other methods of oil recovery, and a higher yield of gasoline therefore secured. There is ordinarily little if any reduction in the quality of the crude." Still another observer in enumerating the advantages of producing oil by gas lift gives "the recovery of gasoline in excess of the amount recoverable by other means."

The effect on petroleum of agitation with gas or air is described by a well known physical law, namely, Dalton's law of partial pressures, which may applicably be explained as follows: In gas lift work each particular hydrocarbon in the gas continues to dissolve in the oil until its partial vapor pressure in the gas is equal to its partial vapor pressure from the oil. Each individual hydrocarbon is absolutely independent of all others. Consequently the character and proportions the different hydrocarbons present in the gas and oil will determine the action.

All gases diffuse into one another and the process goes on until each gas is uniformly distributed through the entire space. If the pressure of each gas be measured separately, it will be found that diffusion continues until the pressure of any given gas is the same in all parts of the space; and further, it will be found that the pressure exerted by each gas is the same as that which the given mass of the gas would have exerted if it alone were occupying the entire space. This pressure is called its partial pressure and the total pressure of the gaseous mixture is the sum of all the partial pressures of the component gases.

The writer has made several tests on a miniature scale, using oils of various gravities and agitating with residue gases from a compression gasoline plant, the residue from an absorption plant and air. Although the results may not exactly duplicate field conditions, they are comparable with the data of actual field operations which will be submitted subsequently. The rate of agitation, the temperature of the oil and other factors were maintained practically constant.

Experimental Results

Attention is called to tables 1, 2 and 3. With the 28 gravity crude the residue from the compression plant did not change the gasoline content of the oil, but the gravity was raised and the initial boiling point was lowered, which indicates that the light fractions of the gas were absorbed by the oil and that some of the heavy fractions of oil were carried away by the gas. The residue gas from the absorption plant had no effect on the gravity of oil or its initial boiling point, but reduced the gasoline content of the oil only 1 per cent, which is within the limit of error of a laboratory distillation. Agitation with air decreased the gravity of the oil, raised the initial boiling point and reduced the gasoline content of oil as much as 2 per cent.

Agitating 38 gravity oil with the residue from the compression plant, the gasoline fraction of oil was lowered as much as 3.7 per cent and its gravity changed from 59.4 degrees A.P.I to 58.1 degrees A.P.I., the gravity of the original crude was lowered and the initial boiling point was practically unchanged. The residue gases from the absorption plant gave similar results, although slightly more gasoline was removed from crude. Agitation with air showed that as much as 6.7 per cent of the gasoline was carried away, the gravity of oil being lowered considerably and the gravity of the gasoline fraction was changed from 59.4 to as low as 55.6 when gas-oil ratio was 2,000 feet per barrel.

With 42 gravity oil and the residue gas from the compression gasoline plant, the gravity of the oil was lowered as much as 2 degrees A.P.I. and gasoline content 4 per cent. The quantity of gasoline removed by the residue from absorption plant was even greater than above and was as high as 4.5 per cent. Air lowered the gravity of oil considerably and changed the gasoline content as much as 5.5 per cent, the gravity of the gasoline being lowered from 61.9 A.P.I. to as low as 56.1 A.P.I.

The field results of the actual operation of the gas lift are similar to experimental results. In a well with gas lift installed by writer the gravity of the oil was 37.1 A.P.I. and had gasoline content of 30 per cent and gravity of 55.6. The oil produced from an offset well in the same sand which was being pumped had a gravity of 38.2 A.P.I., a gasoline content of 32.5 per cent which had a gravity of 58.1.

One example* of a California well in Santa Fe Springs Field when pumped had a gravity of 34.8 degrees A.P.I. and a gasoline content in casinghead gas of .80 gallon per barrel of oil pumped, but when produced by gas lift had a gravity of 33.6 degrees A.P.I. and the gas contained 1.46 gallons of gasoline per barrel of oil lifted.

In the Panhandle Field† gas carrying but a trace of gasoline when injected into a well returned carrying a gasoline content of gas when being pumped is but 1.0 gallon per 1,000 feet. A gas lift installation using gas in wells in Cat Canyon Field raised the gravity of oil from 9 degrees A.P.I. to 13 degrees A.P.I. One company in the Seminole Field reports an average increase in gravity of 1.5 degrees A.P.I. when changing from air to gas.

Application of Results

From these data it may be deduced that the effect of the gas lift on the

*"New Developments in the Use of Gas Lift." R. P. McLaughlin.

†Volume and Pressure Control for Wells on Gas Lift. E. O. Bennett and K. C. Sclater. Oil & Gas Journal, Feb. 24, 1927.

TABLE NO. 1.—BARTLESVILLE SAND OIL, WASHINGTON COUNTY, OKLAHOMA.

	Original Crude	Residue Compression Plant A		Residue Compression Plant B		Residue Compression Plant C		Residue Absorption Plant A		Residue Absorption Plant B		Residue Absorption Plant C		Air A		Air B		Air C	
Gravity	28.5° A.P.I.	29.3°		29.5°		29.4°		28.5°		28.5°		28.4°		28.3°		28.1°		27.9°	
I.B.P.	162°	108°		105°		109°		152°		148°		162°		215°		220°		228°	
	Temp. Grav.	Temp.	Grav.	Temp.	Grav.	Temp.	Grav.	Temp.	Grav.	Temp.	Grav.	Temp.	Grav.	Temp.	Grav.	Temp.	Grav.	Temp.	Grav.
5 Pct. cut	314° 51.0	315°	55.8	316°	56.7	314°	58.0	316°	51.7	318°	52.0	327°	51.5	215°	50.4	220°	49.6	228°	49.4
11.5 Pct.	392° 42.8	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
11.0 Pct.	....	392°	42.7	392°	42.7	392°	43.2	392°	42.6	....	....	....	....	....	....	....	....	....	....
10.5 Pct.	.. ..	..	..	..	..	..	..	..	..	392°	42.9	392°	42.2	....	....	....	....	....	....
10.0 Pct.	.. ..	..	..	..	..	..	..	..	..	..	..	..	..	392°	43.0	392°	42.8	....	....
9.5 Pct.	.. ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	392°	42.6
Charcoal Tests on Gas.																			
Before Circulation		.35 Gals/M						.07 Gals/M											
*After Circulation		.34 Gals/M						.19 Gals/M						.38 Gals/M					

A. Agitation rate 500 cu. ft. per bbl. B. Agitation rate 1,000 cu. ft. per bbl. C. Agitation rate 2,000 cu. ft. per bbl. *Rate of circulation, 1,000 cu. ft. per bbl., temperature 60° to 70° Fahrenheit.

TABLE NO. 2.—BARTLESVILLE SAND OIL, OSAGE COUNTY, OKLAHOMA

	Original Crude	Residue Compression Plant A		Residue Compression Plant B		Residue Compression Plant C		Residue Absorption Plant A		Residue Absorption Plant B		Residue Absorption Plant C		Air A		Air B		Air C	
Gravity	38.7°A.P.I.	38.4°		37.8°		37.3°		37.9°		37.2°		36.8°		36.8°		36.1°		35.6°	
I.B.P.	84°F.	80		82		84		95		105		....		140		152		158	
	Temp. Grav.	Temp.	Grav.	Temp.	Grav.	Temp.	Grav.	Temp.	Grav.	Temp.	Grav.	Temp.	Grav.	Temp.	Grav.	Temp.	Grav.	Temp.	Grav.
5 Pct.	138 83.8	156	83.0	200	76.5	204	72.7	180	79.7	196	74.5	208	72.1	212	69.2	226	67.2	250	63.7
10 Pct.	222 68.2	220	68.1	250	64.2	251	64.0	244	62.9	264	62.1	268	61.8	248	63.2	272	60.5	290	58.6
15 Pct.	260 61.0	256	60.7	288	58.1	304	56.7	284	57.9	286	57.8	292	57.5	292	58.0	302	55.5	324	54.1
20 Pct.	303 55.8	304	55.4	324	54.0	336	52.3	322	55.0	326	54.8	328	54.6	334	52.7	334	53.0	358	51.4
25 Pct.	340 51.4	344	51.2	354	51.0	366	50.3	362	51.2	364	51.2	368	51.3	372	49.6	374	49.5	386	47.7
32.7 Pct.	392 48.4	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
31.5 Pct.	.. ....	392	48.7	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
29.5 Pct.	.. ..	..	....	392	47.9	....	....	....	....	....	....	....	....	....	....	....	....	....	....
29.0 Pct.	.. ..	..	....	..	....	392	47.6	392	48.6	....	....	....	....	....	....	....	....	....	....
28.7 Pct.	.. ..	..	....	..	....	..	....	..	....	392	47.6	....	....	392	47.0	....	....	....	....
28.0 Pct.	.. ..	..	....	..	....	..	....	..	....	..	....	392	47.8	....	....	....	....	....	....
27.7 Pct.	.. ..	..	....	..	....	..	....	..	....	..	....	....	....	....	....	392	46.8	....	....
26.0 Pct.	.. ..	..	....	..	....	..	....	..	....	..	....	....	....	....	....	....	....	392	....
Composite	59.4°A.P.I.	59.1		58.4		58.1		58.7		58.1		57.6		57.4		56.7		56.1	
Charcoal Tests of Gas.																			
*Before Circulation		.36 Gals. per M.						.07 Gals. Per M											
After Circulation		1.48 Gals. per M.						1.29 Gals. Per M										1.62 Gals. Per M	

A. Agitation rate 500 cu. ft. per bbl. B. Agitation rate 1,000 cu. ft. per bbl. C. Agitation rate 2,000 cu. ft. per bbl. *Rate of circulation 1,000 cu. ft. per bbl. Temperature 60° to 70° Fahrenheit.

TABLE NO. 3.—BARTLESVILLE SAND OIL, CREEK COUNTY, OKLAHOMA

	Original Crude	Residue Compression Plant A		Residue Compression Plant B		Residue Compression Plant C		Residue Absorption Plant A		Residue Absorption Plant B		Residue Absorption Plant C		Air A		Air B		Air C	
Gravity	42.6°A.P.I.	41.5°		41.1°		40.8°		41.1		40.5		40.0		40.9		40.1		39.1	
I.B.P.	78°F.	70		80		75		90		100		108		120		135		148	
	Temp. Grav.	Temp.	Grav.	Temp.	Grav.	Temp.	Grav.	Temp.	Grav.	Temp.	Grav.	Temp.	Grav.	Temp.	Grav.	Temp.	Grav.	Temp.	Grav.
5 Pct.	154 85.4	182	80.1	188	76.8	198	76.0	184	79.1	198	73.8	204	68.6	190	75.0	202	69.0	210	65.3
10 Pct.	202 75.8	218	69.7	230	68.6	232	66.4	212	68.4	230	67.3	238	63.4	214	69.4	232	65.8	244	62.7
15 Pct.	230 67.7	245	63.5	254	63.2	256	61.7	242	62.7	257	62.0	262	59.6	252	63.3	270	60.4	272	59.3
20 Pct.	260 61.1	276	58.8	282	59.2	282	58.0	268	59.2	278	59.0	290	57.2	274	58.4	288	56.7	292	56.1
25 Pct.	297 56.3	304	56.2	308	56.6	314	55.5	292	56.6	302	56.4	318	54.4	296	56.3	316	54.4	325	54.2
30 Pct.	323 54.5	336	53.2	338	53.0	342	52.2	322	54.2	332	53.9	348	52.4	330	52.7	334	52.1	348	51.3
35 Pct.	362 51.2	368	50.7	370	50.2	372	50.2	360	51.3	362	51.2	380	49.2	368	50.1	370	49.4	384	48.3
42.5 Pct.	392 48.2	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
40.5 Pct.	.. ....	392	47.8	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
40.0 Pct.	.. ..	..	....	392	47.3	....	....	392	....	....	....	....	....	....	....	....	....	....	....
39.5 Pct.	.. ..	..	....	..	....	....	....	....	48.0	....	....	....	....	....	....	....	....	....	....
39.0 Pct.	.. ..	..	....	..	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
38.5 Pct.	.. ..	..	....	..	....	392	47.6	....	....	392	48.1	....	....	392	48.2	....	....	....	....
38.0 Pct.	.. ..	..	....	..	....	..	....	....	....	....	....	392	47.8	....	....	....	....	....	....
37.0 Pct.	.. ..	..	....	..	....	..	....	....	....	....	....	....	....	....	....	....	....	392	....
Composite	61.9°A.P.I.	59.6		59.0		58.6		59.8		58.4		57.1		58.9		57.1		56.1	
Charcoal Tests on Gas.																			
*Before Circulation		.36 Gals. per M.						.07 Gals. Per M.											
After Circulation		1.62 Gals. per M.						1.40 Gals. Per M.										1.88 Gals. Per M	

A. Agitation rate 500 cu. ft. per bbl. B. Agitation rate 1,000 cu. ft. per bbl. C. Agitation rate 2,000 cu. ft. per bbl. *Circulation rate 1,000 cu. ft. per bbl. Temperature 60° to 70° Fahrenheit.

quality of oil produced is not uncertain, but strictly in accordance with well known physical laws. The quantity of gasoline removed from the oil or dissolved in the oil, depending entirely upon the partial vapor pressures of the individual hydrocarbons in oil and gas, that is, a relatively dry gas when used to flow a well producing a high gasoline content oil will remove gasoline from the oil and the quantity removed will depend upon the gasoline content of the gas used. A low gasoline content oil and consequently a low gravity oil, will absorb some gasoline and probably some permanent gases and will be increased in gravity, the amount depending upon the character of the gas.

Air will remove the same amount of gasoline from oil as a gas absolutely denuded of gasoline vapors, but since it is almost impossible to find such a denuded gas in any high gravity oil field, it happens that air almost always lowers the gravity and gasoline content of oil considerably more than gas, regardless of whether the gas is from an absorption plant, compression plant or extraneous sand, provided the air is not being recycled. Even with low gravity oil we could not expect an increase in gravity with air unless perchance there is some oxidation and at ordinary temperatures such chemical reactions are questionable. Considering the resultant corrosion problems, more persistent emulsions produced and explosion hazards, it is usually more economical to use gas instead of air.

The data show that the residue gas from an absorption gasoline plant removes more gasoline from high gravity crude than the residue gases from a compression plant which we would anticipate. Mindful of this, it does not seem feasible to construct absorption gasoline plants to treat all the gas from wells operated on gas lift where gas is recycled. If there is an excess in volume of output to input gas and this is of sufficient volume, then this surplus gas could be treated in a plant using the absorption process. The extra investment in treating all the gas in an absorption gasoline plant, is made only to accomplish that which could be more profitably attained at the refinery.

The circulating gas removes some heavy hydrocarbons and only part of the lighter and more volatile ones, in fact, the initial boiling point of the crude, in some cases, was not changed, even though 4 per cent of the gasoline was removed. Cognizant of this, we would not expect evaporaiton losses of the high gravity crude oil in storage or in handling to be changed considerably by removing some of the gasoline from the oil in the gas lift and gasoline plant operations; in other words, the effect on decreasing the evaporation losses would not be the same as if the same quantity of gasoline was recovered by a skimming distillation in the field.

Natural Gasoline Industry

A recent compilation* shows that 841,500 gallons of natural gasoline per day, or 44 per cent of the natural gasoline output in Oklahoma and Kansas, is being manufactured at greater Seminole. According to the Bureau of Mines statistics, 13 per cent more natural gasoline was made in December, 1927, than in December, 1926, and 74 per cent of this increase was contributed by Oklahoma and Kansas. Considering the gas lift installations in Tonkawa, Garber and the fields around Wewoka in Oklahoma, Oxford Field in Kansas, Panhandle and other fields in Texas, one would be safe in estimating that probably 1,000,000 gallons of natural gasoline per day is being recovered from gas used in gas lift which formerly found its way to market through crude pipe lines and refineries or was lost through evaporation.

The investment in the plants in the Seminole Field was made primarily for the production of oil by the use of the gas lift. The natural gasoline recovered is simply a byproduct made incident thereto and of more or less minor importance.

Although the price of natural gasoline will probably follow fairly close to that of the gasoline made from crude oil, still it will depend in the immediate future upon gas lift operations in Seminole. The natural gasoline output there is not expected to parallel the decline in petroleum. In gas lift installations as the production and rock pressure declines the gas-oil ratio of the lift is increased. When the Seminole City Pool was first put on gas lift, only about 1,000 or less cubic feet per barrel was necessary to lift the oil, but as the rock pressure declines a lower pressure and a larger volume of gas is used, so that now at some wells as much as 7,000 cubic feet per barrel of oil lifted is used. This removes a corresponding greater quantity of gasoline from the oil, even the gasoline content of gas is less. When wells are put to pumping in the Seminole Field, the yield of natural gasoline has in some cases dropped to 20 per cent of that when gas lift was used. The gas lift even of today is not understood completely, having about it few laws to explain its action and no rational formulae to guide in design. The operation of this production is controlled entirely by partially defined resistances such as slippage of bubbles through liquid, fluid friction of a mixture of oil and gas and eddies. Engineers are making considerable progress and new improvements may cause revision of statistics.

In Oklahoma, most of the prospective sources of oil is from the deeper horizons, consequently we may expect more oil to be produced by means of the gas lift and more natural gasoline made from this source.

It appears to the writer that a natural gasoline plant, built and operated under present prices, where the gas must be handled by compressors, and where there is no other revenue excepting through the sale of gasoline, will in few occasions prove profitable. That is, if prices remain approximately as they now are, a gasoline plant which gathers the gas with compressors to be profitable must be used in conjunction with gas lift operations, restoration of pressure as in Smith-Dunn process or for boosting low pressure gas, so that the surplus may be sold for domestic or industrial consumption or in connection with a carbon black plant.

*C. O. Willson. "Seminole Gasoline Output at Peak." The Oil and Gas Journal, January 26, 1928.

WICHITA PIPE LINE CO. PURCHASED BY PRAIRIE

The Pure Oil Pipe Line Co. of Texas, which is owned by the Prairie Pipe Line Co. has purchased the lines, pump stations, tankage and all physical assets of the Wichita Pipe Line Co. of Wichita Falls, Tex., and will take possession of the properties on March 1.

The Wichita Pipe Line Co.'s system comprises 350 miles of 2, 3, 4, 6 and 8-inch gathering and trunk lines, connecting with oil producing properties in the North Central Texas fields, centering around Wichita Falls. The lines cover parts of the Iowa Park, Burkburnett, Electra, Petrolia, Vernon and Panther Fields.

The Wichita system has sold crude to various refineries situated at Wichita Falls, chiefly the Panhandle Producing & Refining Co., the American Refining Co. and the Orient Petroleum Co. It is assumed that by virtue of the change, these refineries will naturally look to the Prairie Oil & Gas Co. for their future crude supply.

The details of price on this transaction were not made public, and the Wichita Pipe Line Co.'s system was acquired through the purchase of the company's stock.

W. F. Gates, president of the Prairie Pipe Line Co., together with a party of officials of his company, are now in Texas concluding the details of the purchase.

NEW MILWAUKEE DISTRIBUTOR

George E. Page, Milwaukee, formerly with the Page Oil Co. of that city, has organized the George Page Oil Co. and will distribute gasoline and motor oils to commercial accounts in his city.

HOME OIL DISTRIBUTORS NEW CANADIAN COMPANY

The Home Oil Co., whose production was taken over some time ago by Imperial Oil, Ltd., has organized a subsidiary, Home Oil Distributors, Ltd., which will distribute petroleum products in British Columbia, Canada, and later in the prairie provinces. According to a statement by W. C. Shelly, president of the Home Oil Co., the new subsidiary will handle the product of the company's Turner Valley wells which is refined by Imperial Oil, Ltd. The company has purchased the plant of the Vancouver Oil Co., at Vancouver, British Columbia, and is arranging to market its production through British Columbia dealers. Home Oil Distributors, Ltd., will have its office at Vancouver, British Columbia. Maj. James R. Lowery is managing director.

KANSAS WILDCATS

(Continued from Page 44)

DICKINSON COUNTY

Harwood & Winters' No. 1 Utech, SW cor. SE NW Sec. 35-16-4 ..... Drilling 2,316 ft.
McBride & Goens' No. 1 Shirley, NE cor. SW Sec. 21-12-4 ..... Shut down 2,120 ft.

ELLIS COUNTY

J. H. Tatlock et al's No. 1 Leiker, NW cor. NE NE, Sec. 26-13-16w ..... Sand, 3,237-40 ft; 10 bailers of water; shut down.

GRAHAM COUNTY

Gulf Coast Oil Co.'s No. 1 Johnson, SE cor. NE SW Sec. 27-8-25w ..... Shut down 3,270 ft.

GREENWOOD COUNTY

Carnes & Bly's No. 1 Smith, NE cor. SE Sec. 4-24-13 ..... Rig.
O. W. Culp's No. 1 Smith, C NE SE Sec. 28-27-13 ..... Drilling 1,900 ft.
Eureka Oil Co.'s No. 1 Brothers, SE cor. NW Sec. 35-23-11 ..... Drilling 2,370 ft.
C. A. Devine's No. 1 Bradford, SW cor. NE Sec. 22-26-11 ..... Shut down 600 ft.
C. E. Hawks' No. 1 Lessman, SE cor. SW Sec. 14-21-10 ..... Drilling 1,638 ft.
T. C. Johnson's No. 1 Knox, NE cor. NW Sec. 8-23-13 ..... Shut down 1,705 ft.
Kismet Oil Co.'s No. 1 Richardson, SW cor. NE SW Sec. 26-22-11 ..... Location.
Sharpless and others' No. 1 Corder, SW cor. SE SE Sec. 22-23-12 ..... Shut down 1,310 ft.
Smith & Rockhill's No. 1 McDair, NW cor. SE, Sec. 20-26-12 ..... Rig.

HARPER COUNTY

Barbara Oil Co.'s No. 1 Blunk, C NW NE Sec. 20-34-15w ..... Fishing 250 ft.
Amerada Pet. Corp.'s No. 1 Mendiville, C SE SE, Sec. 24-34-6w ..... Drilling 4,100 ft.
Sam Jarvis' No. 1 Wyckoff, SW cor. NW Sec. 11-34-4w ..... Shut down for orders 4,212 ft.
Sam Jarvis' No. 1 Warneke, SE cor. SW sec. 4-34-3w ..... Shut down 4,207 ft.
Gypsy Oil Co.'s No. 1 Douglas, NE cor. SE NW Sec. 23-34-2w ..... Top Wilcox, 4,493 ft; T.D., 4,500 ft; est. 200 bbls; S.D.

JEFFERSON COUNTY

Wichita Oil Co.'s No. 1 Simpson, NW cor. SW SW Sec. 19-10-17 ..... Rigged up and shut down.

KINGMAN COUNTY

James Madison's No. 1 Ballein, SW cor. NW NW Sec. 21-28-5 ..... Drilling 3,470 ft.

LANE COUNTY

Robinson and others' No. 1 Dickerson, SW cor. NW SE Sec. 11-18-27w ..... Casing, 2,645 ft.

LOGAN COUNTY

W. H. Koons', Trustee No. 1 Edwards, NW cor. NW Sec. 14-14-33w ..... Shut down 4,310 ft.

MARION COUNTY

Anderson Brothers' No. 1 Benth, SE cor. SW SW Sec. 31-18-5 ..... Fishing 1,655 ft.
Givens and others' No. 1 Ucker, SW cor. NE Sec. 31-17-4 ..... Underreaming 1,820 ft.
Sun Ray Oil Co.'s No. 1 Lehrman, SW cor. NE SE Sec. 1-21-1 ..... Fishing bailer 2,750 ft.

MEADE COUNTY

Blackwell Oil & Gas Co.'s No. 1 Boyer, SE cor. NW SE Sec. 9-33-28w ..... 8-in. casing 3,205 ft.; total depth 3,315 ft.; shut down.

MORRIS COUNTY

Fisher & Louck's No. 1 Stroda, NW cor. SE Sec. 6-16-5 ..... Drilling 1,811 ft.
Graham Brothers' No. 1 Nelson, NE cor. SE Sec. 30-17-5 ..... Shut down 750 ft.
Moss & Nelson's No. 1 Smith, SW cor. SW Sec. 18-16-5 ..... Rig.
Skelton and others' No. 1 Illes, NW cor. NW Sec. 25-16-5 ..... Rig.

McPHERSON COUNTY

Franks and others' No. 1 Wright, SW cor. NW NW Sec. 9-19-4 ..... Rig.
D. I. Hall's No. 1 Gray, NW cor. SE NW Sec. 20-20-3w ..... Spudded and shut down.
C. W. Lamer's No. 1 Lamer, SE cor. SW Sec. 1-17-3w ..... U.R., 3,495 ft.
The Texas Company's No. 2 Chinberg, NW cor. NE NW Sec. 32-18-2w ..... Drlg., 1,931 ft.

OSBORNE COUNTY

Prather-Davis-Krueger's No. 1 Pruter, SW cor. SE Sec. 30-9-15w ..... Shut down 2,360 ft.

PAWNEE COUNTY

Frank Hopper and others' No. 1 Seifers, NW cor. SW NE Sec. 23-21-11w ..... Fishing bailer 3,418 ft.
F. C. Troupe's No. 1 Lovett, C EL NE NE Sec. 31-21-16w ..... Rig.

POTTAWATOMIE COUNTY

J. J. Crawford's No. 1 College, C W L SW NE Sec. 11-10-12 ..... Shut down 2,250 ft.

RENO COUNTY

Danciger Oil & Refining Co.'s No. 1 Williams, NW cor. SE SE Sec. 6-22-4w ..... Spud.
Stearns-Streater & Marshall's No. 1 Crabb, SE cor. SW NE Sec. 1-25-8w ..... Rig.

RICE COUNTY

Allison & Fitzwilliams' No. 1 Poland, NE cor. SW NE Sec. 36-19-8w ..... Cellar.

RILEY COUNTY

Mutual Oil Co.'s No. 1 Marks, SE cor. NE NW Sec. 26-10-6 ..... Shut down 2,400 ft.

ROOKS COUNTY

Keys Petroleum Co.'s No. 1 Rathburn, NE cor. SW Sec. 14-9-16w ..... Shut down 1,350 ft.
Krueger and others' No. 1 Poore, NE cor. NE Sec. 14-8-16w ..... Spudded and shut down.
Stearns & Streater's No. 1 Matheson, NE cor. SE NW Sec. 28-10-16w ..... Drilling 3,317 ft.

RUSH COUNTY

Valerious & Chenney's No. 1 Sheverman, NW cor. SE NW Sec. 27-17-17w ..... Spudded and shut down.

SALINE COUNTY

Cress & Hawkey's No. 1 Grendler, NE cor. SE Sec. 18-15-5 ..... Rig.
Hugh Faulders' No. 1 Wendt, SW cor. SE SE Sec. 18-15-5 ..... Rig.
Mento Oil & Gas Co.'s No. 1 Muir, SW cor. SW Sec. 17-15-2w ..... Underreaming 3,205 ft.

SEWARD COUNTY

T. B. Slick's No. 1 Pyle, NE cor. NE Sec. 14-33-32w ..... Shut down 850 ft.

SHERMAN COUNTY

A. L. Henson and others' No. 1 Murry, NE cor. SE NW Sec. 22-7-4w ..... Shut down 2,650 ft.

SMITH COUNTY

Smith & Buchner's No. 1 Rice, SW cor. SW Sec. 18-5-15w ..... Rig.

STAFFORD COUNTY

Randall-Johnson's No. 1 Richardson, NW cor. SW Sec. 24-22-11w ..... Rig on ground.

WAUBANSEE COUNTY

Empire Gas & Fuel Co.'s No. 1 Schuaem, SE cor. SE Sec. 19-12-11 ..... Fishing 3,320 ft.

Brief Items for Petroleum Refiners

MARKETING CHANGES IN ROCKY MOUNTAINS

DENVER, Colo., Feb. 11.—Several interesting developments in the marketing of petroleum products in the Rocky Mountain States were reported during the past week. The service stations in Montana recently purchased by the A. A. Vickers Petroleum Co., a subsidiary of the Midwest Refining Co., will shortly commence the marketing of gasoline under the brand name "Midwest." The entrance of the Vickers company into Montana was facilitated by the purchase of the Hughes Oil Co. and the stations of the Arro Oil & Refining Co. The stations will be operated under the name of the Hughes Oil Co.

Blue Sunoco, the Sun Oil Co.'s new motor fuel, was formally introduced into this territory this week at a dinner attended by 75 Denver and Boulder oil station men at which representatives of the company explained the qualities and performance of the new motor fuel.

GASOLINE INVESTIGATION ASKED BY A SENATOR

By Charles E. Kern

Washington Bureau, The Oil and Gas Journal

WASHINGTON, D. C., Feb. 13.—Charges of violation of the antitrust laws in the sale of oil refined in California and distributed in Arizona will be investigated according to the terms of a resolution introduced in the Senate by Senator Ashurst of Arizona. The resolution was referred to the committee on interstate commerce.

The resolution directs an inquiry into the report that these alleged violations of the laws are an illegal combination was made to control the price of gasoline and oils to independent retail distributors and that upon refusal of such retail distributors to maintain the prices set by the combination they would be prevented from receiving any supplies from that source.

ACCIDENT PREVENTION PAYS

NEW YORK, Feb. 11.—Ninety-nine men were saved from burns, broken bones and other injuries by an accident prevention campaign during 1927 at the Bayonne, N. J., refinery, owned by a subsidiary of the Tide Water Associated Oil Co. The report of the refinery insurance committee, just submitted to the works council of the refinery, shows that the number of accidents was reduced 46½ per cent and the number of days lost by workmen through accidents was reduced 31 per cent during 1927, as compared with 1926. The works council, composed of elected representatives of the workmen and the management, governs most of the conditions under which the refinery employes work and during 1927 effected a large number of safety measures.

LOCKE AT HOT SPRINGS

CHICAGO, Feb. 11.—George D. Locke, vice president of the Barnsdall Refineries, Inc., is at Hot Springs, Ark., for his annual vacation. He plans to remain there until the first part of March. He will attend the meeting of the Western Petroleum Refiners Association at Kansas City on March 6, before returning to his office in this city.

NEW ILLINOIS DISTRIBUTOR

The Co-Service Oil Co. has begun business at 1926 East Madison St., Springfield, Ill., as a distributor of gasoline and petroleum products generally. The members of the new company are Jay J. and Moses Rubenstein and Edmond A. Gill.

RESEARCH AND REFINERY TECHNOLOGY COMMITTEES ANNOUNCED BY A. P. I.

The organization of two important committees on fundamental research and refinery technology were announced during the past week by the American Petroleum Institute. The appointment of the committees follows the recommendations of group sessions held at the annual meeting of the institute in December.

The Committee of Fundamental Research will co-operate with the Central Petroleum Committee of the National Research Council in the selection of projects to be financed by the institute's research funds and to advise and assist in the prosecution of the research work.

The first meeting of the committee will be held at the institute's offices on February 17 at 10 a. m. Dr. R. P. Anderson of the American Petroleum Institute is chairman of the committee.

E. W. Isom of the Sinclair Refining Co. has been appointed chairman of the general committee on refinery technology. N. E. Loomis, Standard Oil Co. of New Jersey, is vice chairman and R. P. Anderson, secretary.

The functions of the committee as explained by President E. W. Clark of the Institute are as follows:

1. To aid in providing a forum on refinery technology at the meetings and under the auspices of the American Petroleum Institute, in conformity with the action of the board of directors on the recommendation of the committee on technical relationships (see Bulletin No. 58);

2. To advise the executive officers and technologist of the institute with regard to all problems on refinery technology which the institute is called upon to consider or act upon. The purpose of this is to provide machinery, which has hitherto been lacking except in the case of the committee on testing methods and specifications, for proper consideration of and recommendation in relation to such problems.

Following is the personnel of the two committees:

Fundamental Research

C. B. Buerger, Gulf Refining Co.; W. F. Faragher, Universal Oil Products Co.; R. A. Halloran, Standard Oil Co. of California; J. B. Hill, Atlantic Refining Co.; E. W. Isom, Sinclair Refining Co.; C. O. Johns, Standard Oil Development Co.; K. G. Mackenzie, The Texas Company; R. C. McCollom, A. W. McCoy, Marland Oil Co. of Colorado; R. C. Osterstrom, Pure Oil Co.; L. W. Parson, Tide Water Oil Co.; A. E. Pew, Jr., Sun Oil Co.; W. A. Raine, Union Oil Co. of California; J. B. Rather, Standard Oil Co. of New York; C. W. Washburne, New York; R. B. Whitehead, Atlantic Refining Co.; R. E. Wilson, Standard Oil Co. of Indiana.

Refinery Technology

E. W. Isom, Sinclair Refining Co.; N. E. Loomis, Standard Oil Co. of New Jersey; D. T. Brandt, Henry L. Doherty Co.; C. B. Buerger, Gulf Refining Co.; H. W. Camp, Empire Refineries, Inc.; S. P. Coleman, Humble Oil & Refining Co.; O. P. Cottrell, Associated Oil Co.; T. G. Delbridge, Atlantic Refining Co.; S. H. Diggs, Midwest Refining Co.; R. A. Halloran, Standard Oil Co. of California; E. T. Hanlon, Chestnut & Smith Corp.; Frank Holstein, Barnsdall Refining Co.; E. R. Lederer, Texas-Pacific Coal & Oil Co.; G. K. Mackenzie, The Texas Company; W. D. Mason, Sun Oil Co.; R. R. Matthews, Roxana Petroleum Corp.; Walter Miller, Marland Refining Co.; G. G. Oberfell, Phillips Petroleum Co.; R. C. Osterstrom, Pure Oil Co.; L. W. Parsons, Tide Water Oil Co.; D. Pyzel, Shell Co. of California; F. A. Pielsticker, Skelly Oil Co.; J. B. Rather, Standard Oil Co. of New York; W. F. Sims, Panhandle Refining Co.; W. L. Stewart, Jr., Union Oil Co. of California; L. B. Van Leuven, Vacuum Oil Co.; R. E. Wilson, Standard Oil Co. of Indiana; W. S. Zehrung, Pennzoil Co.

KEYSTONE OIL SUBSIDIARY

The Keystone Oil Distributing Co. has been incorporated with offices at 332 South Michigan Avenue, Chicago, as a subsidiary of the Keystone Oil & Manufacturing Division of the Central Commercial Co. The incorporators are Forest B. Lowery, W. C. Pearl and C. C. McMimm. The company is organized under the Illinois law with a capital stock of $25,000 common and $25,000 preferred stock. The Keystone Oil & Manufacturing Co. now has storage and warehouse facilities and plans to increase these and distribute fuel and furnace oils and possibly other products. The concern has extensive connections and supplies asphalt from Cuba and granite from Vermont for the manufacture of asbestos shingles. It also operates a heavy chemical manufacturing plant in the southern part of this state.

YELLOWSTONE REFINERY

A large skimming plant is being planned by the S. C. Fertig interests and will be built at Billings, Mont., to run the company's production in the Sunburst, Mont., and Wyoming fields. With the plans for the new refinery under way the Fertig interests have been grouped under the Yellowstone Petroleum Co. which will also operate the new refinery. Mr. Fertig stated his purpose in building the plant was to market the refined oils rather than sell the crude at the present prices.

SHALE PLANT RESUMES

DENVER, Colo., Feb. 11.—The Government's oil shale plant in western Colorado will resume operations in the near future. The present session of Congress has appropriated $45,000 for the operation of the plant. The plant was shut down in June of last year after having been operated experimentally for two years.

BARNSDALL DISTRIBUTOR

CHICAGO, Feb. 11.—The Independent Oil Co. of St. Louis, Mo., Paul Brown, president, has been appointed a distributor of the Barnsdall "Be Square" products in St. Louis.

DEEPWATER DISTRIBUTOR

CHICAGO, Feb. 11.—The Lynch-Clarisey Co. has been appointed distributor of lubricating oils by the Deepwater Oil Refineries of Houston, Tex. The Lynch-Clarisey Co. is a large distributor of industrial and domestic heater oils but has not specialized on the lighter products.

APPOINTS ASSISTANT MANAGER

CHICAGO, Feb. 11.—The Roxana Petroleum Corp. has appointed C. M. Southard assistant manager of distribution under J. A. Strong, manager of distribution. His headquarters will be at the St. Louis office. Mr. Southard was division manager at Lima, Ohio previous to his promotion to this position.

PENNZOIL HOLDS SALES CONVENTION AT OIL CITY

OIL CITY, Pa., Feb. 11.—Approximately 250 sales representatives and distributors of the Pennzoil company attended a two-day sales convention held here this week. The delegates came from all parts of the United States for the first general sales convention which has been held here since January, 1925.

The convention marked the completion of a two-year improvement program at the company's Rouseville refinery and inaugurated the sales program for 1928. The company has rapidly expanded all phases of its activities during the past two years. Its products are now sold in every state of the union and many foreign countries. Four years ago the sale of the company's products was largely confined to the area Pennsylvania and New York.

The two days were spent in conference with company's executives and sales department heads, who explained the sales and advertising programs for the coming year. The company expects to rapidly expand its national distribution.

The following program was presented at the business sessions:

Prologue — "Before Taking"—all star cast.

Welcome—C. L. Suhr, president.

"The Job, Our Part and Yours"—E. R. Preble, assistant director of sales.

"Pennzoil, What It Is and Does"—W. S. Zehrung, assistant superintendent.

"The New Pennzoil Gasoline"—J. J. Fox, sales manager.

"Responsibilities of 1928"—R. A. Browne, director of sales.

"Pennsylvania Crude and the South Penn Oil Co."—L. W. Young, Jr., president of South Penn Oil Co.

"Ammunition for Dough Boys"—O. W. Bennett, advertising manager.

"Creative Salesmanship"—J. R. Sweeney, president, Sweeney & James Co.

"The 1928 Barrage"—H. R. Van Pelt, Sweeney & James Co.

"Mopping Up"—F. G. James, Sweeney & James Co.

"This Is the Year"—A. S. Matthews, vice president of Pennzoil Co., Inc.

The sales representatives were shown through the refinery by members of the manufacturing department who explained to them the operation of the new equipment with which the Pennzoil products are made. Several entertainment features were provided during the two days.

TWELVE MEN KILLED IN BEACON REFINERY FIRE

Twelve employes of the Beacon Oil Co. were killed Friday, February 10, in an explosion and fire at the company's refinery located at Everett, Mass. One of the crude oil stills exploded and the resulting fire spread to other stills of the battery. Some of the men near the battery were caught by the flames and in addition to those killed, several were injured.

The force of the explosion was felt for several miles around the plant. Two hours were required to get the flames under control. The property loss was placed by executives at approximately $100,000.

HOLD SALES MEET

BRADFORD, Pa., Feb. 10.—The first annual sales convention of the Kendall Refining Co. which opened here yesterday was closed here this afternoon with a final business session. Approximately 100 men connected with the sales of the Kendall products were in attendance at the convention. The two days were spent in discussing the company's sales plans for the coming year.

Natural Gasoline Manufacture

Discuss Disposal Of Residue Gases In Plant Operation

In connection with the disposal of the residue gas from natural gasoline plants a new synthetic chemistry based on petroleum is arising according to Dr. A. E. Dunstan, who discussed this development at a recent meeting of the Royal Society of Arts in London. Doctor Dunstan pointed out that after the liquid fractions had been removed from the gas there remained the methane, ethane and propane which was now being considered by the chemists.

Regarding this phase of Doctor Dunstan's discussion The Oil and Colour Trades Journal makes the following report:

"For a hundred years we had been familiar with the synthetic chemistry of coal tar, but there was a corresponding chemistry appertaining to mineral oil, and a study of current journals indicated that this aspect of the subject was being very seriously considered. A host of patents were being taken out from time to time dealing, for example, with the chlorination of various components of the gas. A whole range of alcohols could be obtained by chlorination and hydrolysis.

"If one considered what would happen to any paraffin hydrocarbon when exposed to high temperature, one would realize that methane, or instance, would tend to break down to simple radicles—as, for instance, $(CH_3)+H$; $(CH_2)+2H$; $(CH)+3H$—which could have only a transitory existence, and would tend to recombine. A point which, in the laboratories of the Anglo-Persian Co., Ltd., had been found to be attractive was that, if one obtained at the same time six of these CH radicles, and could induce those radicles—almost ghosts—to combine at the same moment, one obtained benzol. If one passed methane, ethane, propane or butane through tubes at temperatures ranging from 700 to 1,000 degrees Centigrade, one obtained benzol, and one could explain that curious phenomenon only by the reasonable assumption that nascent radicals were obtained, and that if one obtained the right number at the right time and the right place, there was every reason to anticipate combination and union.

"As examples, he said that if natural gas, denuded of its gasoline, were passed through tubes heated to between 800 and 900 degrees Centigrade, one obtained about a quart of the possible ethane in the form of condensable products, of which benzol and naphthalene formed a large part. If one had pure ethane at 800 degrees Centigrade, a large proportion of it could be converted into aromatic hydrocarbons. Two sets of gases had been experimented with, the first being a low-pressure gas, containing about 8 per cent hydrogen sulphide, 36 per cent methane, 32 per cent ethane, 9 per cent propane, 9 per cent of butane and 6 per cent of pentane. When passed through a vertical silica tube, electrically heated, with a Cottrell separator to remove tar fog, it gave a yield equivalent to nearly 1,000 gallons per 1,000,000 cubic feet of gas. The second gas, which was a high-pressure gas containing about 1 per cent of hydrogen sulphide, 81 per cent methane, 16 per cent ethane, gave about a quarter of the yield of benzol. The spirit produced in this particular operation had an initial boiling point of 57 degrees, and a final boiling point of 150 degrees; over 70 per cent distilled between 80 and 90 degrees, and was identified as benzol, the crude material having a gravity of .878. At the same time, a quantity of tar was also produced, containing from 15 to 20 per cent of low-boiling aromatic hydrocarbons. The work had been carried out on a somewhat larger scale, using fireclay retorts, and these observations were confirmed.

"Dealing with further aspects of the utilization of natural gas, Doctor Dunstan said that the major part of it was methane, and at the present time a good deal of methane was utilized by burning under conditions of incomplete combustion, so that amorphous carbon was obtained. Another line of attack which was of interest to the chemist was the treatment of natural gas with steam at high temperatures—for example, from 950 degrees to 1,000 degrees Centigrade—when the methane and steam interacted to form carbon monoxide and hydrogen. Where a natural gas contained vast amounts of sulphur—and, unfortunately, many natural gases were contaminated with considerable amounts of hydrogen sulphide—that latter compound could be removed in a variety of ways, and could be made to act as a source of elemental sulphur. It was customary now to treat the gases before compression and absorption to remove sulphur."

NATURAL GASOLINE OUTPUT ON DECLINE EAST OF MISSISSIPPI

The slow general decline in the production of natural gasoline in the states east of the Mississippi River continued during the past year despite the great increase in the production for the country as a whole. The United States Bureau of Mines shows a total production for the country during last year of 1,622,900,000 gallons and the 407 operating plants east of the Mississippi contributed less than 7 per cent of this total. In contrast to this small production, 37 per cent of the total number of plants are in the eastern territory. This is explained as being due to the smaller production of gas per field and the long period over which the development of these fields has taken place. In the more recent years the discovery of new fields has been followed by their rapid development and the installation of large single units rather than several scattered plants.

The 100 and 500-gallon plants are numerous throughout the eastern producing fields and while they adequately handle the needs in their respective locations they stand in striking contrast to the larger plants generally seen in the Mid-Continent and in California. On the basis of the capacities shown for the various plants in The Oil and Gas Journal's survey of natural gasoline plants in the United States the 407 operating plants east of the Mississippi show a total capacity of 642,369 gallons daily or 1,578 gallons as the average capacity per plant. The 6,991 plants west of the Mississippi show a combined capacity of 6,038,048 gallons or an average per plant of 8,635 gallons daily.

This same comparison may be carried further, for California, the lastest major oil-producing state to start to intensely develop the natural gasoline production shows an average capacity per operating plant of 12,200 gallons. But there are other factors that have justified the building of the larger units in the Mid-Continent and in the California fields. The principal one is the finding of more prolific gas-bearing sands and the application of the gas lift to production operations. Producers are usually willing to make liberal terms with the gasoline manufacturers in these fields in order to be supplied an adequate volume of dry gas under pressure. The producing sands both in the newly developed fields in the Mid-Continent principally the Seminole Field and the deep sands in California have been usually rich in gas and the gasoline content has been relatively high so large units were not only justified on the basis of lower unit operating costs but were necessary to adequately handle the volume of gas produced.

West Virginia First

Of the seven eastern states in which natural gasoline is made West Virginia ranks first with more capacity than all others combined Considering the number of plants Pennsylvania has nearly as many as West Virginia and this may be cited as another example in the general trend in the operation of fewer but larger units. The Pennsylvania fields were among the first to produce natural gasoline in appreciable quantities and the development started from there.

But because there are numerous small plants scattered throughout these seven states this does not mean there is no unity of operation. More than 25 per cent of these plants are owned and operated by five companies, the Ohio Oil Co. operating 38 plants throughout the Illinois producing fields and four in West Virginia; the South Penn Oil Co., 39 plants throughout Pennsylvania and West Virginia; the Hope Construction Co. 23 plants in Pennsylvania, Ohio and West Virginia; the Virginian Gasoline Co. 14 plants in West Virginia and Kentucky and the Southern Oil Co. 11 plants in West Virginia and Ohio.

Below are various data tabulated according to states, including the total number of plants as well as the operating plants:

Natural Gasoline Plants East of the Mississippi River

	Total No. Plants	Daily Capy. Gallons	Plants Oper.	Oper. Capy.
Illinois	93	61,216	90	59,668
Kentucky	13	38,350	13	38,350
New York	3	1,650	3	1,650
Ohio	36	15,313	34	15,313
Pennsylvania	135	134,062	132	133,462
Tennessee	1	100	1	100
West Virginia	138	410,676	134	402,826
	419	651,366	407	642,369
Total United States	1,148	6,947,264	1,106	6,680,417

MIDWEST CO. EXTENDING SALT CREEK GAS DRIVE

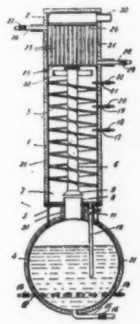
DENVER, Colo., Feb. 11.—The directors of the Midwest Refining Co. (Standard Oil Co. of Indiana) have appropriated $200,000 for the construction of a compressor station in the Salt Creek Field to be used in extending its gas drive system for lifting oil to the surface. Construction work now is under way. It will be a three-unit motor-driven plant operated in conjunction with the company's five casinghead plants in the field. The Midwest is using pressure restoration in the field at the present time. Residue gas from its gasoline plants is being used at an average pressure of 140 pounds per square inch in 25 key wells. The gas drive has shown good results, and for some time the engineering department has been working on plans to augment this drive by the use of inert gas to be handled through a compressor station.

The gasoline plants in the field are handling around 40,000,000 feet of gas per day of which from 12,000,000 to 15,000,000 feet of residue gas is at present going to waste and burned in flambeaux. The company recently began drawing on the Lakota sand wells for part of its supply of crude for the Casper refineries. It is understood that the plans provide for the installation of gas lift on these wells which makes it necessary to develop a high-pressure gas supply. The discharge pressure on the residue gas lines from the gasoline plants is not high enough for this work and the compressor plant is being constructed to meet this requirement.

It is expected that other stations will be constructed as needed these to be located at strategic points. It is not the intentions to use the compressor plant primarily to increase the recovery of gasoline from the casinghead gas, but merely to give the necessary pressure to the residue gas from the other plants for the use to which it is to be put. However, the station is designed to take care of initial conditions during the gas lift stage and also arranged so that they may be changed for the use of gas drive when the production declines to such a point that pressure restoration is the efficient way for handling the situation.

Recent Patents

1,658,322. Treatment of Natural-Gas Gasoline, Casinghead Gasoline, Natural Gasoline, and the Like. Harold B. Bernard, Tulsa, Okla., assignor to Sinclair Oil & Gas Co., Tulsa, Okla., a corporation of Maine. Filed July 22, 1924. Serial No. 727,444. 14 Claims. (Cl. 196—11.)



1. An improved process of treating gasoline products derived from natural gas, casinghead gas, and the like, which comprises introducing the crude gasoline product into the upper end of a tower and causing the liquid to flow downwardly therethrough in a helical path and in a substantially continuous stream in countercurrent to vaporized constituents flowing upwardly through the said helical path without spraying the liquid through the vapors or bubbling the vapors through the liquid, withdrawing the treated gasoline product from the lower end of the tower and withdrawing separated vapors and gases from the upper end of the tower.

TO SELL PIERCE OILS

CHICAGO, Feb. 13.—The Atlas Petroleum Co. has arranged with the Pierce Petroleum Corp. to sell its gasoline, lubricating oils and other products to the jobbing trade outside of the Pierce corporation's own operating territory. The Pierce Petroleum Corp. has recently electrically equipped its plants at St. Louis, Sand Springs and Texas City and is prepared to turn out oils and greases according to jobbers' specifications.

REFINERY AND CRUDE PRICES

Quotations on Principal Refined Products and Crude Petroleum Markets in All the American Oil Fields

GASOLINE AND NAPHTHA

	Feb. 14		Feb. 7		Jan. 31	
OKLAHOMA (Group 3)—						
50-52 450 endpoint	.05⅜	.05½	.05⅜ .05½		.05½	.05¾
56-58 450 endpoint	.05½		.05⅜ .05½		.05½	.05¾
58-60 450 endpoint	.05⅝	.05¾	.05¼ .05⅝		.05½	.05⅞
*58-60 437 endpoint (U. S. Motor)	.061042		.05¾ .06		.05¾	.06
*60-62 400 endpoint	.065		.06⅜ .06½		.06¼	
*64-66 375 endpoint	.070		.06¾ .06⅞		.06¾	
68-70 360 endpoint	.07⅛	.07¼	.07⅛		.07	.07⅛
64-66 437 endpoint (blend)	.06		.05⅞ .06		.05⅝	.05¾
KANSAS—						
58-60 437 endpoint (U. S. Motor)	.06¼	.06⅜	.06⅛ .06⅜		.06	.06¼
NORTH TEXAS—						
56-58 450 endpoint	.05⅜	.05½	.05⅜		.05½	
58-60 450 endpoint	.05⅜	.05½	.05⅜		.05½	
58-60 437 endpoint (U. S. Motor)	.06		.05⅞ .06		.05¾	.06
60-62 400 endpoint	.06¾	.06½	.06⅜		.06⅜	
64-66 390 endpoint	.06⅝		.06½		.06½	.06⅝
64-66 375 endpoint	.06¾	.07	.06¾ .06⅞		.06¾	
68-70 360 endpoint	.07	.07⅛	.07		.07	
64-66 437 endpoint (blend)	.06		.05⅞		.05⅝	
NORTH LOUISIANA—						
58-60 437 endpoint (U. S. Motor)	.06¼	.06½	.06¼		.06¼	
ARKANSAS—						
58-60 437 endpoint (U. S. Motor)	.06¼	.06½	.06¼		.06¼	
PENNSYLVANIA—						
52-54 Naphtha	.07½		.07½ .07¾		.07½	.07¾
54 56 Naphtha	.07½		.07½ .07¾		.07½	.07¾
58-60 Gasoline	.07½	.07¾	.07¾ .08		.07¾	.08
60 Gasoline	.08	.08¼	.08½ .08¾		.08½	.08¾
62 Gasoline	.08½	.08¾	.08¾ .09		.08¾	.09
64 Gasoline	.09	.09¼	.09 .09¼		.09	.09¼
CALIFORNIA—						
58-60 437 endpoint (U. S. Motor) domestic	.07		.07		.07	
CHICAGO DISTRICT (Based on Group 3)—						
50 52 450 endpoint (Naphtha)	.05½	.05⅝	.05½ .05⅜		.05⅝	.05¾
56-58 450 endpoint	.05⅝	.05¾	.05⅝ .05⅞		.05⅝	.05¾
58-60 437 endpoint (U. S. Motor)	.06	.06⅛	.05¾ .06		.05⅝	.06
60-62 400 endpoint	.06½		.06½		.06⅜	.06½
64-66 375 endpoint	.07		.06⅞ .07		.06⅜	.07
68-70 360 endpoint	.07¼	.07⅜	.07⅛ .07¼		.07⅛	.07¼
64-66 437 endpoint (blend)	.06	.06¼	.05¾		.05¾	.06

NATURAL GASOLINE

	Feb. 14		Feb. 7		Jan. 31	
OKLAHOMA (Group 3)—						
Grade A, 72-79.9, 375 e.p., rec. 90%	.05½	.05⅝	.05¼ .05½		.05⅝	
Grade AA, 80-87.9, 375 e.p., rec. 90%	.05⅝		.05¼ .05⅝		.05½	
Grade B, 76 83.9, 375 e.p., rec. 85%	.04⅝		.04⅝ .04⅞		.04⅞	
Grade BB, 84-92, 375 e.p., rec. 85%	.04¾		.04⅝ .04¾		.04½	.04⅝
Grade C, 80-92, 375 e.p., rec. 78 %	.04¼		.04½ .04⅝		.04¼	.04⅜
NORTH TEXAS—						
Grade A, 72-79.9, 375 e.p., rec. 90%	.05½	.05⅝	.05¼		.05⅝	
Grade AA, 80-87.9, 375 e.p., rec. 90%	.05½		.05¼		.05½	
Grade B, 76-83.9, 375 e.p., rec. 85%	.04⅝		.04⅝ .04¾		.04⅞	
Grade BB, 84-92, 375 e.p., rec. 85%	.04⅝		.04⅝		.04½	
Grade C, 80-92, 375 e.p., rec. 78%	.04½		.04½		.04¼	.04⅜
NORTH LOUISIANA—						
Grade AA, 80-87, 375 e.p., rec. 90%	.05½		.05½		.05⅝	.05⅞
Grade BB 84-92, 375 e.p., rec. 85%	.05¼		.05¼		.05½	
Grade C, 80-92, 375 e.p., rec. 78 %	.05⅛		.05⅛		.05¼	.05½
CALIFORNIA—						
75-85, 375, 390 endpoint	.07½	.08	.07½ .08		.07½	.08
CHICAGO DISTRICT (Based on Group 3)—						
Grade A, 72-79.9, 375 e.p., rec. 90%	.05½		.05¼ .05½		.05⅝	
Grade AA, 80-87.9, 375 e.p., rec. 90%	.05½	.05⅝	.05¼		.05½	
Grade B, 76 83.9, 375 e.p., rec. 85%	.04⅝		.04⅝ .04¾		.04⅞	
Grade BB, 84-92, 375 e.p., rec. 85%	.04⅝		.04⅝		.04½	
Grade C, 80-90, 375 e.p., rec. 78%	.04¼		.04½		.04¼	.04⅜

Note: All natural gasoline, except California, is noncorrosive.

BURNING OIL

	Feb. 14		Feb. 7		Jan. 31	
KANSAS—						
41-43 water white Kerosene	.04⅜	.04½	.04⅜ .04½		.04⅜	.04½
OKLAHOMA (Group 3)—						
41-43 water white Kerosene	.04½	.04¼	.04¼		.04½	.04⅜
42-44 water white Kerosene	.04⅝	.04¾	.04⅝ .04¾		.04⅝	.04¾
NORTH LOUISIANA—						
41-43 prime white Kerosene	.04¾	.05	.04¾		.04¾	
NORTH TEXAS—						
41-43 water white Kerosene	.04⅛	.04¼	.04¼		.04⅛	
40-42 water white Kerosene	.04		.04		.04	
ARKANSAS—						
41-43 water white Kerosene	.04¾	.05	.04¾		.04¾	
PENNSYLVANIA—						
43 Kerosene prime white	.06	.06⅛	.06 .06¼		.06	.06¼
45 Kerosene water white	.06¼	.06⅜	.06¼ .06⅜		.06¼	.06⅜
46 Kerosene water white	.06¼	.06½	.06¼ .06½		.06¼	.06½
47 Kerosene water white	.06½	.06⅝	.06½ .06⅝		.06½	.06⅝
300 Mineral Seal	.07	.07¼	.07 .07¼		.07	.07¼
CALIFORNIA—						
38-40 water white Kero. (high-burning test)	.05½		.05½		.05½	
Engine distillate, 43-45, 445 endpoint	.06½	.07	.06½ .07		.06½	.07
Engine distillate, 42-44, 480 endpoint	.06¼	.06¾	.06¼ .06¾		.06¼	.06¾
CHICAGO DISTRICT (Based on Group 3)—						
41-43 water white Kerosene	.04¼	.04⅜	.04¼ .04¼		.04⅛	.04⅜
42-44 water white Kerosene	.04¾		.04¾		.04¾	

FUEL OIL

	Feb. 14		Feb. 7		Jan. 31	
KANSAS—						
18-20 Fuel Oil, per bbl.	.80	.85	.80 .85		.77½	.82½
22-26 Fuel Oil, per bbl.	.85	.87½	.82½ .87½		.80	.85
32-36 Gas Oil	.025⅝		.02⅝		.02½	.02⅝
38-40 Distillate	.03¼		.03¼ .03⅜		.03¼	.03⅜
OKLAHOMA (Group 3)—						
Below 18 Fuel Oil, per bbl.	.75		.70 .75		.70	.75
18-22 Fuel Oil, per bbl.	.77½	.82½	.75 .77½		.75	.77½
22-26 Fuel Oil, per bbl.	.80	.82½	.77½ .80		.77½	.80
24-26 Fuel Oil, per bbl.	.80	.85	.80 .85		.80	.85
26-30 Fuel Oil, per bbl.	.85	.87½	.85 .87½		.85	.87½
28-30 Fuel Oil, per bbl.	.90	.95	.90 .95		.90	.95
32-36 Gas Oil (dark)	.02⅜		.02⅜		.02⅜	
32-36 Gas Oil (straw distillate)	.02½		.02½		.02½	
36-38 Distillate	.03	.03⅛	.03 .03¼		.03	.03¼
38-40 Straw Distillate	.03	.03¼	.03 .03½		.03	.03½
NORTH TEXAS—						
24-26 Fuel Oil (sellers' car), per bbl.	.75	.80	.75 .80		.75	.80
32-36 Gas Oil (straw)	.02¼	.02⅜	.02¼ .02⅜		.02¼	.02⅜
38-40 Straw Distillate	.03		.03		.03	
NORTH LOUISIANA—						
18-20 Fuel Oil, per bbl.	.97½	1.00	.97½ 1.00		.97½	1.00
32-36 Gas Oil	.03	.03¼	.03 .03¼		.03⅛	.03¼
ARKANSAS—						
33-36 Distillate	.03½	.03¾	.03½ .03¾		.03½	.03¾
32-36 Gas Oil (straw)	.02¾	.03	.02¾ .03		.02¾	.03
16-22 Refinery Fuel Oil, per bbl.	.97½	1.00	.97½ 1.00		.95	.97½
GULF COAST (South Texas)—						
Gas Oil	.04¼	.04½	.04¼ .04½		.04¼	.04½
Fuel Oil, per bbl.	1.25		1.25		1.25	
PENNSYLVANIA—						
30-34 Fuel Oil	.04¾	.05	.04¾ .05		.04¾	.05
36-40 Fuel Oil	.04⅞	.05	.04⅞ .05		.04⅞	.05
CALIFORNIA—						
33-36 Distillate	.03½	.03¾	.03½ .03¾		.03½	.03¾
27-32 Distillate	.02½	.03	.02½ .03		.02½	.03
*15-20 Fuel Oil, Bunker (at tide water)	1.00		1.00		1.00	
15-20 Fuel Oil (cargo lots), per bbl.	.90		.90		.90	
27 plus Diesel, per bbl.	1.15	1.19	1.15 1.19		1.15	1.19
CHICAGO DISTRICT (Based on Group 3)—						
24-26 Fuel Oil (sellers' cars) Group 3, bbl.	82½	.87½	.82½ .85		.80	.85
22-26 Fuel Oil (sellers' cars) Group 3, bbl.	.80	.85	.80 .82½		.77½	.82½
18-22 (Group 3), per bbl.	.80	.82½	.77½ .80		.72½	.77½
16-20 Smackover, per bbl.	.95	1.00	1.00 1.05		1.00	
32-36 Gas Oil (zero)	.02¾	.03	.02¾ .03		.02¾	.03
32-36 Gas Oil (industrial)	.02½	.02⅝	.02½ .02⅝		.02½	.02⅝
36-38 Distillate	.03	.03⅛	.03 .03¼		.03	.03¼
38-40 Straw Distillate	.03¼	.03⅜	.03¼ .03⅜		.03¼	.03⅜

*Bunkers.

LUBRICATING OIL AND WAX

	Feb. 14		Feb. 7		Jan. 31	
OKLAHOMA (Group 3)—						
100 vis., 2 color, 20-25 cold test	.06¼	.06½	.06¼ .06½		.06¼	.06½
100 vis., 3 color, 20-25 cold test	.06	.06¼	.06 .06¼		.06	.06¼
150 vis., 3 color, 20-25 cold test	.08¼	.08½	.08¼ .08½		.08¼	.08½
150 vis., 4 color, 20-25 cold test	.08	.08¼	.08 .08¼		.08	.08¼
180 vis., 3 color, 23-28 cold test	.09⅜	.10	.09⅜ .10		.09⅜	.10
180 vis., 4 color, 23-28 cold test	.09¼	.09¾	.09¼ .09¾		.09¼	.09¾
180 vis., 5 color, 23-28 cold test	.09⅛	.09½	.09⅛ .09½		.08⅞	.09½
200 vis., 3 color, 23-28 cold test	.09½	.10½	.09½ .10½		.09½	.10½
200 vis., 4 color, 23-28 cold test	.09⅜	.10¼	.09⅜ .10¼		.09⅜	.10¼
200 vis., 5 color, 23-28 cold test	.09¼	.10	.09¼ .10		.09¼	.10
240 vis., 3 color, 25-30 cold test	.13⅜	.14	.13⅜ .14		.13⅜	.14
240 vis., 4 color, 25-30 cold test	.13¼	.13½	.13¼ .13½		.13¼	.13½
240 vis., 5 color, 25-30 cold test	.12¼	.12½	.12¼ .12½		.12¼	.12½
280 vis., 3 color, 25-30 cold test	.15½	.16	.15½ .16		.15½	.16
280 vis., 4 color, 25-30 cold test	.15	.15½	.15 .15½		.15	.15½
280 vis., 5 color, 25-30 cold test	.14	.14½	.14 .14½		.14	.14½
Cylinder Stocks:						
600, steam refined, light green	.08	.09	.08 .09		.08	.09½
600, steam refined, dark green	.06½	.07	.06½ .07		.07	.07½
190-200 vis. @ 210 Bright Stock	.30	.32	.30 .32		.30	.32
150-160 vis. @ 210 Bright Stock	.23	.25	.23 .25		.23	.25
Waxes:						
124-126 White Crude Scale Wax	.02¾	.02⅞	.02¾		.02¾	
PENNSYLVANIA—						
34 Neutral	.07½	.07¾	.07½ .07¾		.07½	.07¾
34 Sundebloom	.07¾	.08	.07¾ .08		.07¾	.08
36 Miners' Neutral	.06½	.06¾	.06½ .06¾		.06½	.06¾
150, 3 color	.26½	.27	.26½ .27		.26½	.27
180, 3 color	.30	.30½	.30 .30½		.30	.30½
200, 3 color	.32½	.33	.32 .32½		.32	.32½
220, 3 color	.34½	.35	.34½ .35		.34½	.35
600, steam refined	.09¼	.09½	.09 .09½		.09	.09½
635, steam refined	.10¼	.10¾	.10 .10½		.10	.10½
650, steam refined	.10¾	.11¼	.10½ .11		.10½	.11
600, Pennsylvania flash	.15	.16	.15 .16		.15	.16
*550, E filtered	.15	.15½	.15 .15½		.15	.15½
*600, E filtered	.15½	.16	.16 .16½		.16	.16½
600, E filtered	.15	.15¼	.15 .15½		.15	.15½
600, D filtered	.23½	.24	.24½ .25		.24½	.25
550, E filtered	.15½	.16	.15½ .16		.15½	.16
550, D filtered	.21½	.22	.21½ .22		.21½	.22
Pennsylvania Bright Stock	.27½	.28	.27½ .28		.27½	.28
†122-124 White Crude Scale Wax	.03	.03⅛	.03 .03⅛		.03	.03⅛
124-126 White Crude Scale Wax	.03	.03⅛	.03 .03⅛		.03	.03⅛

*At Warren, Pa. †At New York.

GULF COAST (South Texas)—						
No. 2 color, 100 vis., pale oil	.06½	.07½	.06½ .07½		.06½	.07½
No 3 color, 200 vis., pale oil	.09	.09½	.09 .09½		.09	.09½
No. 3 color, 300 vis., pale oil	.10½	.11½	.10½ .11½		.10½	.11½
No. 3½ color, 500 vis., pale oil	.12	.13	.12 .13		.12	.13
No. 4 color, 750 vis., pale oil	.14	.15	.14 .15		.14	.15
No. 5 to 6 color, 200 vis., red oil	.07½	.08	.07½ .08		.07½	.08
No. 5 to 6 color, 300 vis., red oil	.08½	.09	.08½ .09		.08½	.09
No 5 to 6 color, 500 vis., red oil	.09½	.10½	.09½ .10½		.09½	.10½
No. 5 to 6 color, 750 vis., red oil	.12	.12½	.12 .12½		.12	.12½
No. 2½ color, 200 vis., pale filtered	.11½	.12	.11½ .12		.11½	.12
No. 2½ color, 300 vis., pale filtered	.13	.13½	.13 .13½		.13	.13½
No. 2½ color, 500 vis., pale filtered	.14	.15	.14 .15		.14	.15

REFINERY AND CRUDE PRICES

Quotations on Principal Refined Products and Crude Petroleum Markets in All the American Oil Fields

No. 2½-3 color, 750 vis., pale filtered	.17½	.19	.17½	.19	.17½	.19
CALIFORNIA—						
130 vis., 2½-3 color	.09	.10	.09	.10	.09	.10
200 vis., 2½-3 color	.10	.10½	.10	.10½	.10	.10½
300 vis., 3-3½ color	.10½	.11	.10½	.11	.10½	.11
350 vis., 3½-4 color	.11	.12	.11	.12	.11	.12
400 vis., 3½-4 color	.13	.14	.13	.14	.13	.14
Red Neutral:						
200 vis., 4½-5 color	.08½	.09	.08½	.09	.08½	.09
300 vis., 5-6 color	.09	.09½	.09	.09½	.09	.09½
400 vis., 5-6 color	.11	.11½	.11	.11½	.11	.11½
500 vis., 4½-5 color	.11½	.12	.11½	.12	.11½	.12
500 vis., 5-6½ color	.11	.11½	.11	.11½	.11	.11½
600 vis., 6 plus color	.12	.12½	.12	.12½	.12	.12½

Note: Bright Stocks are not manufactured commercially on the Pacific Coast.

NEW YORK (BAYONNE) REFINERY PRICES

	Feb. 14	Feb. 7	Jan. 31
Gasoline, U. S. Motor, 58-60 437	.08¼	.08¼	.08¼
Kerosene, water white, 41-43	.07½	.07½	.07½
*Fuel Oil, bunker "C," 14-16, per bbl.	1.35	1.35	1.35
*Fuel Oil, Diesel, 28-30, per bbl.	2.10	2.10	2.10
Gas Oil, 28 plus	.05½	.05½	.05½
25 pale Paraffin Oil	.12	.12	.12
28 pale Paraffin Oil	.07	.07	.07
285 red Paraffin Oil	.11½	.11½	.11½
250 red Paraffin Oil	.10½	.10½	.10½
225 red Paraffin Oil	.09½	.09½	.09½
200 red Paraffin Oil	.09	.09	.09
Refined Wax:			
120-122 a.m.p., per lb.	.04	.04	.03⅞
125-127 a.m.p. per lb.	.04¼	.04¼	.04
130-132 a.m.p., per lb.	.04⅜	.04⅜	.04½
135-137 a.m.p, per lb.	.05½	.05½	.05¼
Petrolatum, in bbls., carload lots, per lb.:			
Dark green	.02	.02	.02
Amber	.03⅜	.03⅜	.03⅜
Extra amber	.03¾	.03¾	.03¾
Cream	.06½	.06½	.06½
Lily White	.08⅜	.08⅜	.08⅜
Snow White	.09⅜	.09⅜	.09⅜

*Lighterage, 6.5c a barrel extra.

NEW YORK (BAYONNE) EXPORT PRICES

	Feb. 14	Feb. 7	Jan. 31
Gasoline, U. S. Motor, 58-60 437, in cases	.2365	.2365	.2365
Kerosene, standard white, in cases	.1690	.1690	.1690
Kerosene, water white, in cases	.1790	.1790	.1790
600, steam refined cylinder stock, in bbls.	.17	.17	.17
635, steam refined	.19	.19	.19
650, steam refined	.20	.20	.20
600, Pennsylvania flash	.23	.23	.23
630, Pennsylvania flash	.35	.35	.35
600, Warren E	.25	.25	.25
600, Oil City E	.24	.24	.24
Light 135 Bright Stock	.40	.40	.40
Dark 135 Bright Stock	.38	.38	.38

LOS ANGELES EXPORT PRICES

	Feb. 14		Feb. 7		Jan. 31	
Kerosene, water white	.04½	.05	.04½	.05	.04½	.05
U. S. Motor Gasoline, 53-55 437 e.p.	.06	.06⅛	.06	.06⅛	.06	.06⅛

CALIFORNIA CRUDE OIL PRICES

Standard Oil Co.-Union Oil Co. (Effective April 1, 1927)*

Gravity—	Fullerton Seal Beach Long Beach Huntington Beach Richfield Rosecrans-Dominguez Torrance-Inglewood 1	Whittier La Habra Montebello 2	Kern River Newhall-McKittrick Midway-Sunset Elk Hills Lost Hills Belridge Buena Vista Hills 3	Coyote 4	Santa Fe Springs 5	Coalinga 6	Wheeler Ridge 7	Santa Maria Ventura, Orcutt Salt Lake 8
14°	.85	.85	.75	.85	....	.75	.75	.85
15°	.85	.85	.75	.85	....	.75	.75	.85
16°	.85	.85	.75	.85	....	.75	.75	.85
17°	.85	.85	.75	.85	....	.75	.75	.85
18°	.85	.85	.75	.85	....	.75	.75	.85
19°	.85	.85	.75	.85	....	.75	.75	.85
20°	.85	.85	.77	.85	....	.76	.76	.85
21°	.86	.85	.79	.86	.85	.77	.77	.85
22°	.87	.85	.81	.87	.85	.78	.78	.85
23°	.88	.85	.83	.88	.85	.79	.79	.85
24°	.89	.85	.85	.89	.85	.80	.80	.85
25°	.90	.86	.87	.90	.86	.81	.81	.86
26°	.92	.87	.89	.91	.87	.83	.82	.87
27°	.94	.88	.91	.92	.88	.85	.83	.88
28°	.96	.89	.93	.93	.89	.87	....	.89
29°	.98	.90	.96	.94	.91	.89	....	.91
30°	1.00	.91	.99	.95	.93	.91	....	.93
31°	1.03	....	1.02	....	.95	.93	....	.95
32°	1.06	....	1.05	....	.97	.95	....	.97
33°	1.09	....	1.08	....	.99	.97	....	.99
34°	1.12	....	1.11	....	1.01	.99	....	1.01
35°	1.15	....	....	....	1.03	1.01	....	1.03
36°	1.18	....	....	....	1.06	....	....	1.06
37°	1.21	....	....	....	1.09	....	....	1.09
38°	1.24	....	....	....	1.12	....	....	1.12
39°	1.27	....	....	....	1.15	....	....	1.15
40°	1.30	....	....	....	....	....	....	....
41°	1.33	....	....	....	....	....	....	....
42°	1.36	....	....	....	....	....	....	....

*Column 1—Long Beach, Seal Beach and Huntington Beach crudes, 14 to 32 degrees, inclusive; Richfield and Fullerton, 14 to 30 degrees; Torrance and Inglewood, 14 to 28 degrees; Dominguez, 24 to 42 degrees. Rosecrans crude ranges from 14 to 42 degrees, but only Union Oil Co. posts below 24 degrees.

Column 2—Whittier crude, 14 to 22 degrees; Montebello, 14 to 30 degrees.

Column 3—Kern River, Newhall and McKittrick, 14 to 19 degrees; Midway-Sunset, Buena Vista and Elk Hills, 14 to 35 degrees; Lost Hills and Belridge, 14 to 34 degrees.

Column 5—Salt Lake, 14 to 19 degrees, inclusive; Santa Maria, 14 to 30 degrees; Ventura and Orcutt, 14 to 39 degrees. Posted by Union Oil Co.

CRUDE OIL GRAVITY OIL TABLE

Gravity—	1 Okla., Kans., N. C. Tex., La.-Ark.	2 Smackover, Ark.	3 Stephens, Ark.	4 Gray County (Texas Panhandle)	5 Crane, Upton, Pecos, Crockett Counties (West Texas)	6 Salt Creek, Wyo.	7 Grade B & Light Crude (G. Coast)	8 Somerset, (South Central Texas)
24 and above	....	.90	....	....	....	....	....	....
Below 24	....	.75	....	....	....	....	....	....
Below 25	....	....	....	....	....	....	1.15	....
25 to 25.9	....	....	....	....	....	....	1.17	....
Below 26	....	....	....	....	.60	....	....	....
26 to 26.9	....	....	....	....	.60	....	1.19	....
27 to 27.9	....	....	....	....	.60	....	1.21	....
Below 28	....	(*)	1.00	....	....	....	....	....
28 to 28.9	1.12	....	1.02	.80	.60	....	1 23	....
29 to 29.9	1.14	....	1 04	.82	.60	1.14	1 25	....
30 to 30.9	1 16	....	1.06	.84	.60	1.16	1 27	....
31 to 31.9	1.18	....	1.08	.86	.60	1.18	1 29	....
32 to 32.9	1 20	....	1.10	.88	.60	1 20	1.31	1 05
33 to 33.9	1 22	....	....	.90	.60	1.22	1.33	1.07
34 to 34.9	1 24	....	....	.92	.60	1 24	1.35	1.09
35 to 35.9	1 26	....	....	94	.60	1 26	1.37	1.11
36 to 36.9	1.28	....	....	.96	.60	1.28	....	1.13
37 to 37.9	1 30	....	....	98	....	1.30	....	1.15
38 to 38.9	1 32	....	....	1.00	....	....	....	1.17
39 to 39.9	1 34	....	....	1 02	....	....	....	....
40 to 40.9	1 36	....	....	1 04	....	....	....	....
41 to 41.9	1.38	....	....	1.06	....	....	....	....
42 to 42.9	1 40	....	....	1 08	....	....	....	....
43 to 43.9	1 42	....	....	1.10	....	....	....	....
44 to 44.9	1 44	....	....	1.12	....	....	....	....
45 to 45.9	1.46	....	....	....	....	....	....	....
46 to 46.9	1.48	....	....	....	....	....	....	....
47 to 47.9	1 50	....	....	....	....	....	....	....
48 to 48.9	1 52	....	....	....	....	....	....	....
49 to 49.9	1 54	....	....	....	....	....	....	....
50 to 50.9	1.56	....	....	....	....	....	....	....
51 to 51.9	1 58	....	....	....	....	....	....	....
52 and above	1.60	....	....	....	....	....	....	....

Column 1—Magnolia Petroleum Co. posted new schedule September 14, making price below 30 gravity $1.05 per barrel, with 2 cents increase per degree higher in gravity, taking 30-30.9 gravity at $1.16 as basis, with a top price of $1.60 for 52 and above.

Oklahoma—Prairie Oil & Gas Co., Sinclair Oil & Gas Co., Gypsy Oil Co., March 13; Carter Oil Co., The Texas Company, March 14.

North Central Texas—[Including Ranger, Mexia, Powell, Richland, Wortham, Lytton Springs (Southwest Texas), Iatan and Panola (Magnolia only. Iatan posted on flat price of $.93 by Magnolia on January 14, 1928). Currie, Nocona, Moran and Corsicana light]; Texas, Prairie, Sinclair and Gulf, March 12; The Texas Company, Humble Oil & Refining Co., March 14.

Kansas—Prairie, Sinclair, March 12; Carter, Texas, March 14.

Arkansas and North Louisiana—[Caddo, Bull Bayou, Crichton, De Soto, Haynesville, Homer and El Dorado only]; Standard Oil Co. of Louisiana, March 14; The Texas Company, March 14; Magnolia Petroleum Co., Pine Island, Haynesville and Bull Bayou, El Dorado, Gulf Pipe Line Co., March 14.

Column 2—February 6, Louisiana Oil Refining Co. February 7, Standard Oil Co. of Louisiana, The Texas Company, Gulf Refining Co., Magnolia Petroleum Co. February 8, and Atlantic Production Co. February 10.

Column 3—Atlantic Oil Producing Co., March 14.

Column 4—Humble Oil & Refining Co. and Gulf Pipe Line Co., March 14. On August 23 Magnolia Petroleum Co. posted flat 75 cents.

Column 5—Humble Oil & Refining Co., August 23; Kay County Gas Co., Magnolia Petroleum Co., and Gulf Pipe Line Co., August 24.

Column 6—Midwest Refining Co., March 12. All crude over 37 gravity, $1.30 per barrel.

Column 7—Humble Oil & Refining Co. and other major buyers (schedule ends "35 and above"), March 14, with exception of Magnolia Petroleum Co., which stops at 31 degrees gravity. Sun Pipe Line Co. posts 2 cents differential for each degree above 35 gravity and $1.47 for 40 gravity and above.

Column 8—Grayburg Pipe Line Co. and Pioneer Oil & Refining Co., April 7.

*Prices for crude below 28 gravity; Oklahoma, Kansas and Texas, Magnolia Petroleum Co., $1.10, March 12; Arkansas, North Louisiana, March 14. Other companies, 2 cents less for each degree, with exception of Humble Oil & Refining Co., which pays 90 cents for crude below 25 degrees gravity, effective November 16.

CRUDE OIL PRICES

OKLAHOMA, KANSAS, NORTH AND EAST CENTRAL TEXAS

*Corsicana heavy (March 14, 1927)....$1.00
Other fields....See gravity table

*Posted by Magnolia Petroleum Co.

TEXAS PANHANDLE

*Carson County....$ .75
*Hutchison County....75
*Wheeler County....75
Gray County....See gravity table

*Humble Oil & Refining Co.
Magnolia Petroleum Co., Gulf Pipe Line Co., and Kay County Gas Co., August 23.

*Iatan....Same as North Texas
Crane-Upton-Crockett....See gravity table
†Glasscock....80
†Chalk....80

*Includes Howard County and Westbrook Fields. Kay County Gas Co. pays $1.05 for Howard County crude, effective May 21.
†Magnolia Petroleum Co., Jan. 14, 1928.

ARKANSAS-NORTH LOUISIANA

Cotton Valley (Feb. 7)....$ .75
Bellevue (Feb. 24, 1927)....1.20
Urania (Nov. 18, 1927)....75
East El Dorado (Sept. 20)....90
Other fields....See gravity table

Note—Cotton Valley and Bellevue, Standard Oil Co. of Louisiana, Louisiana Oil Refining Co., Gulf Refining Co. and Magnolia Petroleum Co.; (Magnolia Petroleum Co. posted Cotton Valley February 8); Urania, Louisiana Oil Refining Corp.; East El Dorado, Magnolia Petroleum Co., Gulf Refining Co.

GULF COAST

(Goose Creek, Hull, Liberty, West Columbia, Orange, Boling, Sour Lake, Humble, High Island, Pierce Junction and Spindletop.)
‡Grade A (March 14)....$1.20
Grade B....See gravity table
*Jennings, La. (March 14)....$1.05
†Saratoga, Batson, Dayton (March 14, 1927)....$1.20
§Markham (March 14)....1.00

*Gulf Pipe Line Co. †Sun Pipe Line Co. ‡Humble Oil & Refining Co. and other major buyers. §The Texas Company.

SOUTH CENTRAL AND SOUTHWESTERN TEXAS

*Luling (May 5)....$1.00
†Mirando (March 14)....1.00
Rockdale-Minerva (April 15):
Below 38 gravity....1.25
38-38.9 gravity....1.27
39-39.9 gravity....1.29
40 and above....1.31
*Thrall....
Callihan (May 15)....1.75
Lytton Springs (Lockhart) See gravity table
Somerset....See gravity table

*Posted by Magnolia Petroleum Co. Thrall prices same as North Central Texas less 19½ cents per cwt. freight.
†Magnolia Petroleum Co., Humble Oil & Refining Co., Crown Central Pipe Line Co.

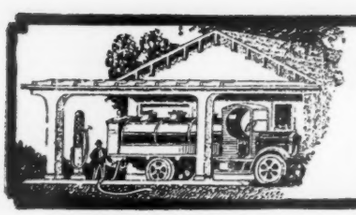
ROCKY MOUNTAIN STATES

Ohio Oil Co.-Midwest Refining Co.
(Effective March 14)

Rock Creek, Wyo. (March 12)....$1.35
Salt Creek....See gravity table
Big Muddy (March 12)....$1.25
Mule Creek (May 1)....1.10
Grass Creek, heavy....90
Grass Creek, light....1.22
Elk Basin (March 12)....1.33
Lance Creek (March 12)....1.33
Poison Spider....1.00
Notches....65
Rex Lake (February 22)....1.10
Osage....1.33
Lost Soldier (contract)....95
Greybull-Torchlight....1.33
Hamilton Dome....85
Cat Creek (Mont.)....1.33
Sunburst (Mont.) (Jan. 25, 1928)....1.50
Artesia (March 12)....1.00
Hogback (N. Mex.) (March 14)....1.33

Note: Salt Creek, Osage, Cat Creek, Grey-

(Continued on Page 126)



TANK WAGON MARKETS

Tank wagon quotations for gasoline and kerosene in United States as furnished by the larger marketing concerns Feb. 14.

ALL TANK WAGON AND SERVICE STATION QUOTATIONS INCLUDE TAXES

STANDARD OIL CO. (INDIANA)

	Gasoline Tank wagon	Gasoline Service station	Incl'd's tax	Kero. tank wagon
Chicago dist. ..	16.0	18.0	2.0	12.0
Decatur, Ill. ...	15.5	17.5	2.0	12.1
E. St. Louis ...	15.1	17.35	2.0	11.2
Joliet	16.4	18.4	2.0	12.3
Peoria	14.0	14.0	2.0	12.1
Quincy	16.2	18.2	2.0	11.9
Davenport, Ia..	15.5	17.5	3.0	12.3
Des Moines ...	15.9	17.9	3.0	12.3
Keokuk	17.5	19.5	3.0	12.3
Sioux City	17.1	19.1	3.0	11.9
Duluth, Minn..	15.5	17.5	2.0	12.9
Minneapolis ...	15.0	15.0	2.0	12.9
Mankato	14.1	16.1	2.0	12.7
La Crosse, Wis.	17.2	19.2	2.0	13.0
Milwaukee	16.1	18.1	2.0	11.9
Madison	16.3	18.3	2.0	12.1
Detroit, Mich. .	15.8	17.8	3.0	13.7
Grand Rapids .	17.7	19.7	3.0	13.6
Saginaw	17.9	19.9	3.0	13.8
Evansville, Ind.	17.0	19.0	3.0	13.0
Ft. Wayne	16.4	17.4	3.0	13.4
Indianapolis ...	15.2	16.2	3.0	13.2
South Bend	17.4	17.4	3.0	13.4
Fargo, N. D. ..	15.0	17.0	2.0	14.9
Huron, S. D. ..	19.5	21.5	4.0	13.9
Sioux Falls ...	16.0	18.0	4.0	13.4
*K. C., Mo. ...	14.9	16.9	3.0	10.6
*Springfield ...	16.8	18.8	3.0	11.6
*St. Louis	15.6	17.9	2.5	11.3
*St. Joseph ...	14.5	16.5	3.0	11.2
Wichita, Kans..	14.8	16.8	2.0	10.8
Bartlesville, Ok.	15.8	17.8	3.0	10.8

NAPHTHAS

	Tank wagon	Tank car
Oleum spirits	14.7	9.5
V. M. & P. naphtha	14.2	11.0
Cleaner's naphtha	13.0	12.0
Stanisol	19.0	12.5

Tank wagon prices f.o.b. Chicago; tank car prices f.o.b. Whiting.

STANOLIND FURNACE OIL IN CHICAGO

Less than 100 gallons	9.0
100 to 799 gallons	8.0
800 or more gallons	7.5

Note—Outside Chicago furnace oil discount of 1 cent per gallon is given on deliveries of 100 to 349 gallons and 1½ cents on deliveries of 350 gallons or more.

Tank wagon prices of gasoline subject to discount of 1 cent a gallon on dumps of 50 gallons or more throughout territory except Chicago district where discount applies only to dumps of 100 gallons. Kerosene subject to 1 cent discount on dumps of 50 gallons or more.

Outside the Chicago district, the following quantity discount schedule is in effect on monthly tank wagon deliveries of gasoline: 6,000 gallons or more, 1½ cents; 10,000 gallons or more, 2 cents; 15,000 gallons or more, 3 cents. These discounts include the 1 cent allowed on dumps of 50 gallons or more at one delivery.

Within the Chicago district, the following quantity discount schedule is in effect on tank wagon deliveries of gasoline: 750 to 2,000 gallons, one-half cent; 2,000 to 3,000 gallons, three-fourths cent; 3,000 to 6,000 gallons, 1 cent; 6,000 to 10,000 gallons, 1¼ cents; 10,000 to 15,000 gallons, 2 cents; 15,000 gallons or more, 3 cents. These discounts are in addition to the special discount of 1 cent on dumps of 100 gallons or more at one delivery.

If the quantity bought during the year is equal to or exceeds 12 times the agreed monthly quantity, the discount is paid or credited on the entire quantity at the close of the term less the monthly payments made during the year.

*State tax 2 cents; remainder city tax.

OHIO

Standard Oil Co. (Ohio)

	Gasoline Tank wagon	Gasoline Service station	Incl'd's tax	Kero. tank wagon
All Ohio points	17.0	19.0	3.0	14.5

SOUTHWESTERN DISTRICT

Magnolia Petroleum Co.*

	Gasoline Tank wagon	Gasoline Service station	Incl'd's tax	Kero. tank wagon
Dallas, Tex. ...	12 0	15 0	3 0	11.0
Fort Worth ...	14.0	16.0	3.0	10.0
Houston	13.0	15.0	3.0	15.0
San Antonio ..	13.0	15.0	3.0	10.0
El Paso	14.0	15.0	3.0	16.0
Texarkana	15.0	13.0	3.0	12.0
Muskogee, Ok..	15.0	13.0	3.0	10.0
Okla. City	13.0	14.0	3.0	10.0
Tulsa	13.0	14.0	3.0	10.0
Ft. Smith, Ark.	14.0	17.0	5.0	10.0
Little Rock ...	16.0	16.0	5.0	11.0

*The following is the schedule of discounts on quantity gasoline sales adopted by the Magnolia Petroleum Co. in Oklahoma: Over 750 gallons a month, one-half cent; over 2,000 gallons, three-quarters cent; over 3,000 gallons, 1 cent; over 4,500 gallons, 1¼ cents; over 6,000 gallons, 1½ cents; over 8,000 gallons, 1¾ cents; over 10,000 gallons, 2 cents. If the quantity bought during the year is 12 times the monthly agreed purchases, the discount will be paid or credited on the entire quantity for the year less any monthly purchases.

The schedule on service station deliveries is: Over 200 gallons a month, 1 cent; over 300 gallons a month, 1¼ cents; over 400 gallons, 1½ cents; over 500 gallons a month, 1¾ cents; over 600 gallons, 2 cents. The same rule applies for annual purchases in the tank wagon discounts.

CENTRAL SOUTH DISTRICT

Standard Oil Co. (Louisiana)

	Gasoline Tank wagon	Gasoline Service station	Incl'd's tax	Kero. tank wagon
*N. Orleans, La.	15.5	18.5	3.0	14.0
Baton Rouge ..	14.0	17.0	2.0	12.5
Alexandria	15.0	18.0	2.0	14.0
La Fayette	15.0	18.0	2.0	13.5
Lake Charles ..	15.5	18.5	2.0	14.0
Shreveport	15.5	18.5	3.0	13.0
Kn'xville, T'nn.	19.5	22.5	3.0	15.0
Memphis	17.0	18.5	3.0	14.0
Chattanooga ..	19.5	22.5	3.0	15.0
Nashville	18.0	21.0	3.0	15.0
Bristol	19.0	22.0	3.0	14.0
Lit. Rock, Ark.	16.0	16.0	5.0	11.0

*Tax of 3 cents includes city tax of 1 cent.
*Louisiana kerosene prices include 1-cent state tax and 1-cent parish tax.

SOUTHERN DISTRICT

Standard Oil Co. (Kentucky)

	Gasoline Tank wagon	Gasoline Service station	Incl'd's tax	Kero. tank wagon
Atlanta, Ga. ..	17.0	19.0	4.0	14.0
Augusta	19.0	22.0	4.0	16.5
Macon	16.0	19.0	4.0	13.5
Savannah	17.0	19.0	4.0	14.5
Birm'h'm, Ala..	18.0	21.0	4.0	14.5
Mobile	17.0	20.0	4.0	14.0
Montgomery ..	16.0	19.0	5.0	15.5
Clarks'le, Miss..	17.0	20.0	4.0	11.5
Jackson	17.0	20.0	4.0	11.5
Natchez	16.5	19.5	4.0	14.0
Gulfport	18.5	21.5	4.0	14.0
Vicksburg	16.5	19.5	4.0	14.0
Jack'ville, Fla..	18.0	21.0	5.0	11.5
Miami	20.0	23.0	5.0	14.5
Pensacola	19.0	22.0	5.0	13.0
Tampa	18.0	21.0	5.0	13.0
Lexington, Ky..	18.0	21.0	5.0	15.5
Covington	19.0	22.0	5.0	15.5
Louisville	18.0	21.0	5.0	15.0

In addition to the state tax of 4 cents on gasoline, Montgomery has city tax of 1 cent on gasoline. Kerosene prices in Georgia includes 1 cent tax. In Florida, an inspection fee of 0.125 cent; in Alabama, an inspection fee of one-half cent on kerosene only. Pensacola tax includes 1 cent city levy. Gulfport tax includes privilege tax of 2 cents in addition to state tax.

PENNSYLVANIA-DELAWARE AND PART NEW ENGLAND

Atlantic Refining Co.

	Gasoline Tank wagon	Gasoline Service station	Incl'd's tax	Kero. tank wagon
Pittsburgh, Pa..	16.0	*22.0	...	14.0
Philadelphia ..	15.0	*21.0	...	14.0
Scranton	16.0	*22.0	...	14.0
Allentown	16.0	*22.0	...	14.0
Altoona	16.0	*22.0	...	14.0
Erie	12.0	*18.0	...	14.0
Dover, Del. ...	19.0	22.0	3.0	14.0
Wilmington ...	19.0	22.0	3.0	14.0
Spring'd, Mass.	16.0	16.0	...	15.0
Worcester	15.0	15.0	...	15.0
Boston	15.0	15.0	...	15.0
Providence, R.I.	19.0	19.0	2.0	15.0
Hartford, Conn.	18.0	18.0	2.0	15.0
New Haven ...	18.0	18.0	2.0	15.0

*Includes tax of 3.0 cents. Pennsylvania tax is collected by the dealer and paid by him direct to the State.

NEW YORK AND PART OF NEW ENGLAND DISTRICT

Standard Oil Co. (New York)

	Gasoline Tank wagon	Gasoline Service station	Incl'd's tax	Kero. tank wagon
Albany, N. Y...	17.0	19.0	...	15.0
*New York ...	17.0	19.0	...	15.0
Buffalo	17.0	19.0	...	14.0
Rochester	13.0	16.0	...	14.0
Syracuse	17.0	19.0	...	15.0
Boston, Mass...	17.0	19.0	...	15.0
Augusta, Me. ...	21.0	23.0	4.0	15.0
M'nch't'r, N. H.	19.0	23.0	4.0	15.0
Burlington, Vt.	20.0	22.0	3.0	15.0

*Price in steel barrels.

NEBRASKA

Standard Oil Co. (Nebraska)

	Gasoline Tank wagon	Gasoline Service station	Incl'd's tax	Kero. tank wagon
Omaha	15.25	17.25	2.0	12.25
McCook	14.75	14.75	2.0	11.50
Norfolk	16.75	18.75	2.0	12.75
N. Platte	17.75	19.75	2.0	13.50
Scottsbluff	17.25	19.25	2.0	13.00

PACIFIC COAST DISTRICT

Standard Oil Co. (California)

	Gasoline Tank wagon	Gasoline Service station	Incl'd's tax	Kero. tank wagon
San Francisco .	17.0	21.0	3.0	15.5
Pueblo	18.0	18.0	3.0	15.5
Los Angeles ..	16.5	20.5	3.0	15.5
Reno, Nev. ...	22.0	26.0	4.0	19.0
Portland, Ore..	17.5	21.5	3.0	16.5
Seattle, Wash..	16.5	20.5	2.0	16.5
Tacoma	16.5	20.5	2.0	16.5
Spokane	20.5	24.5	2.0	20.5
Phoenix, Ariz..	23.0	27.0	4.0	20.5

ATLANTIC COAST DISTRICT

Standard Oil Co. (New Jersey)

	Gasoline Tank wagon	Gasoline Service station	Incl'd's tax	Kero. tank wagon
Atlantic City .	18.0	20.0	2.0	14.0
Newark, N. J...	18.0	20.0	2.0	14.0
Annapolis, Md..	20.0	23.0	4.0	13.0
Baltimore	20.0	23.0	4.0	10.0
Cumberland ...	20.0	23.0	4.0	14.0
Washington ..	18.0	21.0	2.0	12.0
Danv'lle, Va....	20.5	....	4.5	14.0
Norfolk	20.5	23.5	4.5	12.0
Petersburg	20.5	23.5	4.5	14.0
Roanoke	20.5	23.5	4.5	14.0
Richmond	18.5	21.5	4.5	14.0
Ch'rslt'n, W.Va.	20.0	23.0	4.0	14.0
Keyser	20.0	23.0	4.0	14.0
Parkersburg ...	17.0	20.0	4.0	14.0
Wheeling	20.0	23.0	4.0	14.0
Charlotte, N. C.	20.0	23.0	4.0	14.0
Hickory	20.0	20.0	4.0	14.0
Mt. Airy	20.0	23.0	4.0	14.0
Salisbury	20.0	23.0	4.0	14.0
Charlest'n, S. C.	20.0	23.0	5.0	14.0
Columbia	20.0	23.0	5.0	14.0

ROCKY MOUNTAIN DISTRICT

Continental Oil Co.

	Gasoline Tank wagon	Gasoline Service station	Incl'd's tax	Kero. tank wagon
Denver, Colo. .	16.0	18.0	3.0	12.5
Pueblo	16.0	18.0	3.0	14.5
Grand Junctn. ..	20.5	22.5	3.0	18.0
Casper, Wyo. ..	17.0	19.0	3.0	13.0
Cheyenne	18.0	20.0	3.0	14.5
Butte, Mont. ..	22.5	22.5	3.0	19.0
Helena	22.5	24.5	3.0	19.0
Salt L'ke, Utah	20.0	21.0	3.5	17.0
Albu'que, N. M.	21.0	24.0	5.0	17.0
Boise, Idaho ..	23.5	25.5	4.0	19.0
Twin Falls	23.5	25.5	4.0	19.0

TANK WAGON CHANGES

February 8—Standard Oil Co. of Indiana increased the gasoline tank wagon and station prices 2 cents at Wichita, Kans., making the new prices 14.8 and 16.8 cents.

February 14—Standard Oil Co. of Nebraska increased the gasoline tank wagon and station prices 1 cent in Omaha, Neb., making the new prices 15.25 and 17.25 cents.

CRUDE PRICE CHANGES

February 9—Joseph Seep Purchasing Agency reduced Cabell, W. Va., and Somerset, Ky., crudes 15 cents per barrel, making the new price on Cabell crude $1.35 and Somerset $1.45.

February 10—Ohio Oil Co. reduced Indiana and Lima, Ohio, crudes 16 cents, making Indiana crude $1.32 and Lime crude $1.55 per barrel. The Imperial Oil Co., Ltd., reduced Oil Springs, Canada and Petrolia, Canada, crudes 16 cents making Oil Springs crude $2.02 and Petrolia crude $1.95 per barrel.

URGES CONTROL OF OIL

Formation of nationally-owned oil companies, in which 51 per cent of stock would be taken over by the governments, was recommended for Latin America by Enrique Mosconi, chief of the Argentine government petroleum department, in an address at Mexico City to a gathering of diplomats and Mexican government officials, including those of the petroleum department.

Mosconi intimated that foreign oil interests, principally American, were seeking to dominate the Latin American field. The only way to prevent it, he said, was to form an internally-owned company in each Latin American country.

COMMITTEE OF NINE CONTINUING ITS WORK

By Charles E. Kern

Washington Bureau, The Oil and Gas Journal

WASHINGTON, D. C., Feb. 14.—The Committee of Nine, instituted by Secretary Hubert Work of the Department of the Interior and chairman of the Federal Oil Conservation Board, has not been disbanded and will continue its work in the interest of legislation for the conservation of oil and gas.

The report of this committee, made public on February 6, dealt only with permissive legislation, what might be done by the operators in an oil or gas pool without violation of law or fear of prosecution by the Department of Justice, provided 100 per cent of such operators agreed to co-operative measures in the interest of conservation.

The next step will be to see what may be done to enforce conservation if less than 100 per cent of the operators should voluntarily come into the necessary co-operation; for instance, if two or three of them hold out from such agreement.

The second troublesome question relates to the removal of natural gas from an oil field when the retention of the gas in the ground would result in a much larger production of oil. This may mean some legislative action to prevent the removal of natural gas which would place the natural gas industry in a position hitherto never contemplated.

These are questions to be dealt with by the Committee of Nine before its work has been concluded and investigations are in progress looking to some report in the future respecting the necessity for such legislation.

GAS CONSERVATION CONFERENCE

The general committee, appointed by E. W. Clark, head of American Petroleum Institute, on California gas conservation, is scheduled to meet in Los Angeles on February 16, when initial reports of subcommittees which have been working in the field will be made.

CRUDE OIL PRICES

(Continued from Page 125)

bull and Hogback posted by Midwest Refining Co., and the remainder by the Ohio Oil Co. Both companies post Grass Creek light and Elk Basin.

EASTERN STATES

Joseph Seep Purchasing Agency
(Effective December 17)

Penna Grade Oil in New York Transit Line (New York)	$2.10
Bradford District Oil in National Transit Lines (Pennsylvania)	2.10
Penna Grade Oil in National Transit Lines (Pennsylvania)	2.05
Penna Crude Oil in Southwest Pennsylvania Lines (West Virginia)	2.00
Penna Grade Oil in Eureka Pipe Line Lines (Pennsylvania)	2.00
Penna Grade Oil in Buckeye Pipe Line lines (Ohio)	2.10
Cabell Grade Oil in Eureka Pipe Line Lines (West Virginia) (February 9, 1928)	1.35
Corning 35-cent grade oil in Buckeye Pipe Line Co.'s line (December 19)	1.40
Corning 25-cent grade oil in Buckeye Pipe Line Co.'s lines (December 19)	1.40
Somerset Oil in Cumberland Pipe Line lines (Kentucky) (February 9, 1928)	1.45
Ragland Grade oil in Cumberland Pipe Line lines (Kentucky) (August 1)	.80
Kelster (Pennsylvania) (August 1)	1.10

MIDDLE WESTERN STATES

Ohio Oil Co.
(Effective March 14, 1927)

Lima (February 10)	1.55
Wooster	1.47
Illinois	1.40
Indiana	1.32
Princeton	1.40
Plymouth	1.33
Waterloo (Nov. 17, 1926)	1.35
*Western Kentucky	1.25
**Saginaw, Mich., Saginaw Sand (May 27)	2.00
**Saginaw, Mich., Berea Sand (May 27)	1.90
†Cumberland, Clay, Barren, Clinton and Monroe Counties, Kentucky (March 16)	1.50
‡Oil in lines of Stoll Oil Refining Co. in Oil City, Ky. (March 16, 1927)	1.50
§Oil Springs (Canada) (February 10, 1928)	2.02
§Petrolia (Canada) (February 10, 1928)	1.95

*Posted by Ohio Oil Co.
†Posted by Paragon Development Co.
‡Posted by Stoll Oil Refining Co.
§Posted by Imperial Oil Co., Ltd.
**Posted by Sun Oil Co.

MEXICAN CRUDE

Note—Due to the fact that the exportation of Tuxpam light crude oil has become a negligible factor, prices will no longer be published.

*Panuco heavy (f.o.b. Mex. ports)	$1.15

*$.15.

Authorized Dealer

SINCLAIR OPALINE MOTOR OIL

REG. U. S. PAT. OFF

Seals Power at every Degree of Wear

When you become an Authorized OPALINE Dealer!

REG. U.S. PAT. OFF.

... you have the exclusive Opaline method of applying motor oil.

... you ask a motorist, when he drives in, "What's your mileage?" Then you consult the Sinclair Recommendation Index and you give him the correct grade of Opaline he needs—whether his car is new, whether it has travelled 2,000 miles, 12,000 miles, or over!

... that grade of Opaline will fit the degree of *wear* in his engine. It will seal the pistons and prevent power from blowing by!

... that's the *extra* service Opaline gives a motorist — the *extra* service *YOU* give him. And he'll come back for more!

... the right *grade* of motor oil is just as important as the right *quality*. The Authorized Opaline Dealer gives a motorist *both*. May we tell you the added advantage of selling such a favorably known, nationally advertised brand?

SINCLAIR REFINING COMPANY, INC.

Also Makers of Sinclair Gasoline and H-C Gasoline

45 NASSAU STREET, NEW YORK

Atlanta Boston Chicago Houston Kansas City

© 1928 S. R. C.

Oil Securities Follow Lower Market

Show Little Strength in Face of General Trend on Wall Street. Some Issues Reach New Lows for Year

The oil group displayed little strength last week and followed the bearish tone of the general market which was extremely nervous. The statement of the Standard Oil Co. of New York which revealed the company's earnings at 90 cents per share, while the actual dividend disbursement was $1.60 per share, was instrumental in adding to the weak position of the oils. Last year was the first time since 1921 that the New York company showed a deficit.

There were some new lows recorded by the oils, with Phillips Petroleum selling at 38⅜, Barnsdall A selling at 22¾ and Houston Oil selling at 130½.

Standard Oil of New York

Blair & Co., the Equitable Trust Co. and Chase Securities Corp. are offering $20,000,000 4½ per cent serial gold debentures of the Standard Oil Co. of New York. The proceeds of the issue will be applied towards the redemption of the $20,000,000 12-year 6½ per cent debentures due May 1, 1933, which are to be called for redemption on May 1, 1928.

Herbert L. Pratt, president of the Standard Oil Co. of New York, states that while the final results for 1927 will not be definitely determined until later, it is estimated that the consolidated net earnings available for interest and Federal taxes were in excess of five times the annual interest on funded debt to be outstanding.

The 4½ per cent debentures are to mature in installments of $1,000,000 annually from February 15, 1929, to February 15, 1948, both inclusive. They are redeemable as a whole on any interest date at 102 and interest if redeemed on or before February 15, 1940; thereafter at 102 and interest less ½ per cent for each year or part thereof elapsed after February 15, 1940.

Shell Union Oil

Despite reports circulated in Wall Street that Shell Union would reduce the dividend rate, the regular quarterly dividend of 35 cents a share was declared, payable March 31 to stockholders of record March 1.

Dixie Gas

The Dixie Gas & Utilities Co., a holding company engaged in the production and distribution of natural gas in eastern Texas and eastern Louisiana between Houston and Port Arthur, Texas, and Shreveport, La., has sold to a banking syndicate $3,000,000 of its 10-year secured 6½ per cent sinking fund bonds, series A, and $1,500,000 3-year 6 per cent convertible notes. The two issues will be publicly offered early next week by Goddard & Co., Inc., Moore, Leonard & Lynch of New York and Pittsburgh; Hale, Water & Co. of New York and Boston, and Hutchison & Co. of Providence.

Upon completion of this financing and current construction now practically finished, the Dixie Gas & Utilities Co. will serve the domestic requirements of Beaumont, Scottsville, Jonesville, Hallsville, Marshall, Henderson, Jacksonville, Rusk, Kilgore, Orange, Carthage, Garrison, Nacadoches, Timpson and Livingston, Texas, and Cedar Grove, La. The company will also supply gas at wholesale to the distributing companies in Palestine, Longview and Tyler, Texas, and to Shreveport, La. It is estimated that the open flow of gas available to this company is in excess of 1,300,000,000 feet per day.

The Dixie Gas & Utilities Co. is controlled by the Moody-Seagraves interests, who also control the Dixie Gulf Gas Co. and are identified with the Houston Gulf Gas Co. and other natural gas propositions.

Oklahoma Natural Gas Co.

The Oklahoma Natural Gas Corp. first mortgage 5 per cent bonds, series B, due February 1, 1948, are being offered for public subscription at 96¼ and accrued interest, to yield over 5.30 per cent, by G. L. Ohstrom & Co., Inc., Halsey, Stuart & Co., Inc., Graham, Parsons & Co., Blyth, Witter & Co., Coffin & Burr, Inc., and Shields & Co. This issue, amounting to $14,000,000, is one of the largest bond offerings in the history of the natural gas industry. At the option of the corporation, the bonds will be redeemable, in whole or in part, on any interest payment date upon 60 days' notice, to and including February 1, 1933, at 105 and accrued interest, and thereafter at graduated prices to maturity. Principal and semi-annual interest are payable at the Seaboard National Bank of the City of New York, trustee.

The Oklahoma Natural Gas Corp. or its predecessor companies, has been operating gas utility properties successfully for the last 20 years. Gas sales of the properties in 1927 exceeded 44,100,000,000 feet, of which about 99 per cent was delivered to consumers through lines now owned or presently to be acquired.

This issue, together with the $12,620,000 bonds of series A, now outstanding, constituting the only funded indebtedness of the corporation, are secured by a direct first mortgage on all of the physical properties now owned and presently to be acquired by the corporation. The depreciated reproduction value of the properties, plus the actual cost of recently constructed properties, improvements and additions, is appraised by independent engineers at $52,900,000 as compared with $26,620,000 principal amount of first mortgage bonds outstanding and presently to be outstanding; in this valuation only about $6,400,000 has been included for the value of the corporation's gas holdings, consisting of gas acreage, leaseholds and valuable gas purchase contracts.

American Republics Corp.

The American Republics Corp. and subsidiaries for the year ended December 31, 1927, report net loss of $146,197 after expenses and other charges. This compares with net income of $2,899,622 after charges and federal taxes, equivalent after preferred dividends to $10.99 a share earned on 200,000 shares of common stock outstanding in 1926.

The net loss for the fourth quarter of 1927, was $224,129 after charges, comparing with net loss of $54,184 after reserve for taxes in the preceding quarter.

The consolidated income account for 1927 compares with 1926 as follows:

	1927	1926
Sales	$26,199,160	$32,315,143
Costs & expenses	25,375,786	29,474,834
Oper. profit	823,374	2,840,311
Other income or charges (net)	*969,571	†239,811
Fed. tax reserve	.....	179,700
Net loss	$ 146,197	‡$2,899,622
Preferred divs.	700,000	700,000
Deficit	$ 846,197	‡$2,199,622

*Debit. †Credit. ‡Income. ‡Surplus.

The consolidated balance sheet of the American Republics Corp. and susidiaries as of December 31, 1927, compares as follows:

Assets	1927	1926
*Plant, bldgs., etc	$38,669,097	$38,467,344
Contracts	500,000	500,000
Cash	†6,934,381	1,606,321
Accts. & bills rec'v.	5,221,921	6,559,272
Inter co. receiv.	13,307,027	14,128,724
Inter-co. bds.	800,000	800,000
Inventories	5,477,332	4,915,151
Marketable secur.	5,853,583	6,022,925
Accrued funds	84,617	87,307
Deferred charges	914,358	637,500
Total	$77,762,316	$73,723,977
Liabilities		
Preferred stock	$10,000,000	$10,000,000
Common stock	‡20,822,000	20,210,000
Bills & accts. payable	4,478,881	4,496,181
Accrued expenses	477,035	407,452
Inter-co. paym'ts	13,247,635	14,068,594
Trust ctfs.	9,382,000	3,725,000
Bonds	5,100,000	5,350,000
Reserves	1,516,229	1,961,300
Surplus	12,738,536	13,594,600
Total	$77,762,316	$73,723,977

*After depreciation and depletion.
†Includes $6,000,000 deposited with trustee.
‡Represented by 209,180 no par shares.

Arkansas Natural Gas

Stockholders of the Arkansas Natural Gas Co. will receive .965 of a share of 6 per cent preferred stock and one share of no par common stock of the Arkansas Natural Gas Corp. for each share of old stock. The new corporation will have $21,930,000 6 per cent cumulative preferred stock of $10 par value and 4,084,225 shares of no par common stock, of which stockholders of Arkansas Natural Gas Co. will receive $15,780,000 of preferred and 1,633,690 shares of common stock.

The new corporation will also issue $13,000,000 first mortgage 15-year 6 per cent bonds, which will be used to purchase gas properties of the Southwestern Gas & Electric Co. and gas and oil properties of the Bethany Oil & Gas Co. In addition to the Arkansas Natural Gas Co., the National Gas & Fuel Corp. and Industrial Gas Co. will be included in the merger.

Reiter-Foster Oil

The statement of the Reiter-Foster Oil Corp. as of December 31, 1927, shows total assets of $5,615,862. The balance sheet as of December 31, 1927, follows:

Assets: Leaseholds, equipment, fixtures, etc., less depreciation, $4,738,135; prepaid expenses, $851; stocks in other companies (minority interest), $123,517; cash $66.444; accounts and notes receivable, $38.835; warehouse stocks, $85,945; deferred accounts receivable, $507,136; total, $5,615,862.

Liabilities: Capital stock represented by 265,607 no par shares and 117,977 no par shares sold but unissued, (making total of 383,584 no par shares), $2,726,010; accounts payable, $13.921; Supply Co. note (due January 15, 1928) $5,000; Supply Co. notes (due $5,000 per month after January 15, 1928), $28.207; surplus, $2,844,724; total, $5,615,862.

Indiana Annual Meeting

The annual meeting of the Standard Oil Co. of Indiana will be held Thursday, March 1, at Whiting, Ind.

Union Oil of California

The report of the Union Oil Co. of California and owned companies for the year ended December 31, 1927, shows net profit of $10,048,493 after interest, federal taxes, depreciation and depletion.

LIST OF ACTIVE PETROLEUM STOCKS

Stocks—	Par	Clos. Quot. Feb.11	Clos. Quot. Feb.6	1928 High	1928 Low	1927 High	1927 Low	1926 High	1926 Low
Amerada Corp.	..	30	30½	32⅝	29⅝	37⅛	27⅝	32⅞	24⅜
Atlantic Refining, com.	100	101	100⅜	109⅞	97½	131⅜	107	128⅝	97
Barnsdall "A"	25	22⅝	23½	26½	22⅜	35½	20⅜	32½	23½
California Petroleum, com.	25	25⅛	25⅜	26⅞	24	32⅝	20	38⅛	30⅞
Houston Oil	100	133½	140	156½	130½	175⅜	60½	75	50¼
Independent Oil & Gas	..	24⅜	26½	28¼	25⅛	32⅜	14⅞	34	20¼
Louisiana Oil	10	10½	10⅜	12⅜	10½	18⅛	10½	19⅝	12
Maracaibo	..	13	15½	18¼	14⅝	22⅜	12	27⅜	18⅜
Marland	..	34⅝	35⅛	38⅜	34⅝	58⅛	31	63⅜	41¼
Mid-Continent Petroleum	..	26½	26½	29½	26¼	39⅜	25½	41	25⅜
National Supply	50	92⅜	93⅛	96⅛	92⅝	95⅜	76	84⅞	55½
Oil Well Supply	28	35	35½	41	34½	44⅜	31¼	36	30
Pan American, B	50	40⅝	42½	46⅜	41⅝	66⅜	45⅛	72⅜	56⅛
Pan American, Western B	..	18½	19½	21	19⅛	37⅞	16⅜	46	34
Phillips Petroleum	..	38⅜	39⅞	43½	38⅜	60¼	36½	54⅞	42⅛
Producers & Refiners	50	22	22¼	26	22⅛	33⅞	16¾	26	11
Pure Oil, com.	..	20⅝	21	27½	19	33½	25	31	25⅜
Royal Dutch, N. Y. sh.	13.40	46	46⅜	48⅝	44⅝	54½	44⅛	57⅜	49⅜
Shell Transport	10	42	41⅜	42⅞	39⅜	49	41½	48⅞	42
Shell Union, com.	..	24¼	25	26⅞	24⅞	31⅜	24⅝	30⅞	24
Simms Petroleum	10	19½	21⅜	24¾	20⅝	23⅞	14¼	25⅝	16½
Sinclair Consolidated	..	18⅝	18½	21¼	18	22⅜	15⅛	24⅞	16¾
Skelly Oil	25	26	26⅜	28¼	25⅞	37⅛	24⅜	37⅛	27
Standard of California	25	54⅛	54¼	56⅝	54	60⅜	50⅜	63½	54
Standard of New Jersey, com.	25	38⅝	39	40½	38⅞	41⅝	35⅛	46⅝	37½
Standard of New York	25	29⅝	29½	31⅜	29¼	34⅛	29¾	47¼	30⅝
Sun Oil Co.	..	38	35½	39⅞	31½	34⅞	30	41¼	30⅛
The Texas Company	25	51½	52⅜	55⅝	52⅛	58	45	58	46
Texas Pacific Coal & Oil	10	13¼	14⅜	17	14	18⅞	12	19½	12⅛
Tide Water Associated	..	15¼	15⅜	17¼	15⅜	19⅛	15⅜	21	17
Transcon.Inental	..	7⅜	8⅛	10¼	7⅞	10⅜	3⅜	5½	3
Un on Oil of California	25	42⅜	43⅛	45¼	43	56½	39⅝	53⅜	37¼
Union Tank, com.	100	121½	120	125	119¼	126	94	120⅜	84¼
White Eagle Oil & Refining	..	21½	21⅜	24¼	20½	27½	21⅜	29⅜	25⅛
Standard Oils									
Anglo-American Oil	£1	20¼	20⅝	21¾	18½	21⅝	17⅛	19¾	16½
Borne Scrymser	25	*52	50	56	50	69	49½	75	66
Buckeye Pipe Line	50	*62	61½	63	58	59	45	59½	42
Chesebrough Manufacturing Co.	25	*128	135	149⅜	120	126	76½	81⅛	63
Continental	10	17⅜	19¼	23	18½	22⅝	16¼	25⅞	10¼
Cumberland Pipe Line	100	*103	101	105	94	‡137	90	137	102
Eureka Pipe Line	100	*67	66	70	64¼	66	47	43⅜	43
Galena Signal, com.	100	5	5	6½	4	13½	4½	32½	9⅞
Humble Oil & Refining Co.	25	61⅛	63½	68	61⅝	67⅜	54	99⅝	52
Illinois Pipe Line	100	180	182	185½	176½	181½	123⅜	144	131
Imperial Oil	..	59⅜	60⅜	65¼	59	64⅜	37⅜	39⅜	32½
Indiana Pipe Line	50	75¼	75	78⅜	75	93	61	68	52¼
International Petroleum Co.	10	37⅛	38½	43	36½	36⅜	28¼	35¼	28⅜
National Transit Co.	12.50	*22⅝	21½	23⅞	20½	23¼	13¼	30⅜	27¼
New York Transit	100	*48	47	48	38½	42	31¼	61½	27¼
Northern Pipe Line	100	*101½	101	103	94	96	70	80½	64
Ohio Oil Co.	25	60⅛	62⅜	66⅜	62⅜	66	52	67⅜	55⅜
Penn-Mex Fuel	25	*36½	38⅛	39⅞	36	36½	12	24¼	15
Prairie Oil & Gas	25	48½	48⅜	50¼	48⅛	55½	45⅝	60¼	49
Prairie Pipe Line	100	186½	187	187⅜	184	188¼	132	137½	123½
Solar Refining Co.	100	*176	176	178	175	‡201½	178	212	184½
South Penn Oil	25	*37⅞	37	40¼	36⅜	41½	34½	50	30
Southwest Pa. Line	100	*87½	87	88⅜	70	77	65½	56	47½
Southern Pipe Line	50	*27	29	33½	21	39	18½	27	34
Standard of Indiana	25	76	77	80½	76⅝	80¼	64⅝	70½	60½
Standard of Kansas	25	15¼	15⅞	17⅝	15	20⅞	15⅝	36½	16½
Standard of Kentucky	25	126	126	133	124	125½	111½	134⅝	107
Standard of Nebraska	25	41½	41½	43	41½	49½	43	51¼	42
Standard of Ohio, com.	100	73½	74	79	7-	81½	72	362	192½
Swan & Finch, com.	25	*17	17	17⅝	16⅜	21	14½	21	18
Vacuum Oil	25	143½	144⅝	148½	139	147	95¼	109⅜	94½
Gulf Oil Corp. of Pa.	25	102½	111⅞	117¼	110⅝	116	86¼	96	82½

*Bid, no sales. †Old stock. ‡New stock. §Ex-dividend.
Quotations furn'shed by W. J. Wollman & Co.

The Oil and Gas Journal's weekly average price of 20 representative petroleum stocks listed on the New York Stock Exchange and New York Curb was as follows:

Feb. 20	61.02	Jan. 9	63.55	Dec. 3	62.06
Feb. 6	62.03	Dec. 31	62.09	Nov. 28	62.22
Jan. 30	62.75	Dec. 27	62.86	Nov. 21	63.66
Jan. 23	63.49	Dec. 19	63.24	Nov. 14	62.78
Jan. 16	63.87	Dec. 12	62.07	Nov. 7	61.30

equivalent to $2.65 a share (par $25) earned on 3,788,618 shares of stock. This compares with $11,831,618 or $3.12 a share in 1926.

Humble Annual Meeting

At meetings of stockholders and directors of the Humble Oil & Refining Co. at Houston all directors and officers headed by W. S. Farish, president, were re-elected for the coming year. In a statement issued by Mr. Farish net earnings of the company during 1927 were $7,100,000 as against $19,385,000 for 1926. Mr. Farish warned that only by caution and conservation on the part of each individual unit of any company would there be prosperity in the industry during 1928.

Wilcox Oil & Gas

Wilcox Oil & Gas Co., at a quarterly meeting of the board of directors, declared a cash dividend amounting to 50 cents a share on all outstanding no par value shares, as of record January 15, payable February 10.

South West Penn Pipe Lines

Report of South West Pennsylvania Pipe Lines for year ended December 31, 1927, shows a profit of $362,289 after depreciation, etc., equivalent to $10.35 a share earned on 35,000 shares of stock. This compares with $249,362, or $7.12 a share, in 1926.

Income account for 1927 compares as follows:

	1927	1926
Profit	$362,289	$249,362
Dividends	210,000	140,000
Surplus	$152,289	$109,362
Prev. surp.	487,598	566,856
Total surplus	$639,887	$676,218
Adjustments		188,620
P. & L. surplus	$639,887	$487,598

Balance sheet of South West Pennsylvania Pipe Lines as of December 31, 1927 compares as follows:

Assets	1927	1926
*Plant	$2,101,797	$2,006,501
Other inv.	1,898,235	1,690,672
Accts. rec.	188,600	185,777
Oil pur & Sales cont.		
Cash	43,508	211,151
Total	$4,232,140	$4,094,101
Liabilities		
Capital stock	$3,500,000	$3,500,000
Accts paya le	92,253	106,503
P. & L. surplus	639,887	487,598
Total	$4,232,140	$4,094,101

*After depreciation.

GASOLINE MARKET IS STRONGER IN GROUP 3

(Continued from Page 28)

ment made during the week. In the past, however, strong opposition was met with every tendency to advance the market to 3 cents.

Gasolines and Naphthas

With the U. S. Motor grade of gasoline selling to jobbers at a weighted average price of 6.1042 cents based on Monday's reports to The Oil and Gas Journal, it is apparent prices have definitely strengthened and the very low priced material of several weeks ago has been eliminated. While some sales were said to have been made at 5⅞ cents, other refiners refuse to quote below 6 cents, while others have gone to 6⅛ cents as their new low price. Other grades have witnessed similar strength in price, the high gravity gasolines being quoted at higher prices not so much as a result of any increased demand but due to the lesser margin of revenue compared to the U. S. Motor grade due to the higher cost of natural gasoline as a blending material. The weighted average price for the 60-62 400 endpoint material is shown as 6.5 cents and that for the 64-66 375 endpoint grade is 7 cents.

The naphtha market was weak as a result of the better prices quoted on natural gasolines as a blending material.

Natural Gasolines

Generally higher quotations with only a normal amount of material moving summarizes the status of the natural gasoline market. The great bulk of the trading was done in the AA grade, which sold at prices fractionally above those of last week. The C grade did not show the same strength and moved in the opposite direction from the other grades. It was generally quoted at 4¼ cents with but a limited number of purchasers interested.

Kerosene and Distillates

The 41-43 grade of kerosene was noticeably weaker from the standpoint that it was being more freely offered and price concessions were made in many cases. The better grade of material was generally quoted at 4¼ cents but some of it was being offered at 4⅛ cents. Until the spring demand from the agricultural regions kerosene is not expected to strengthen materially. The decreased shipments of furnace oil have been responsible for the increased production of kerosene and accounts for the fact that kerosene did not advance after the removal of a large quantity of it for export two weeks ago.

Distillates and furnace oils have had periodic flurries, depending upon the weather. In general, however, the demand has been below what was expected for this period of the year and some refiners are faced with relatively large stocks. This is particularly true of the high flash material and does not apply to the treated low flash, high gravity distillates, better termed furnace oils.

Fuel Oils and Gas Oils

The 70-cent fuel oil was removed from the market over the week and most refiners were asking 75 cents as the minimum even on the very heavy material. Viscosity specifications accompanied several large inquiries and refiners are concerned with this development. Cracked fuels have commanded a premium in many cases, because of their generally lower viscosity for a given gravity and their lower cold test.

While gas oil remains unchanged in price, it is not being freely offered for refiners are holding their stocks for cracking. The zero cold test gas oil was in fair demand and was hard to supply from very many plants and for that reason brought premiums as much as three-eighths cent above the regular industrial grade.

Lubricants and Wax

Little change could be seen in the lubricant market and refiners are marking time until the better summer demand comes. Compounded oils represent the great bulk of the business and because their movement has been slow, bright stock, as a blending material, is being freely offered by manufacturers with the result that prices are very low but are not expected to go lower. Refiners say they already have but a bare manufacturing margin in most cases. Cylinder stocks have been plentiful also, but there has been no price changes.

Wax shipments are taking the production of refiners and an effort is being made to get quotations up to 3 cents. Strong opposition to the 3-cent price has been felt at several other times recently when the market appeared to be on its upward trend but refiners point to the generally better situation in the eastern wax market as justification for expecting higher prices for their product here.

STEADY IMPROVEMENT AT OIL REFINERIES

(Continued from Page 29)

pany started operating a 12,000-bbl. skimming plant at McCamey, Tex., during the past year and started operating its San Antonio, Tex., refinery early this month. The latter has a capacity of 4,000 bbls. daily. In April the company expects to start operating its third new plant at Ingleside, Tex. This plant will have a skimming capacity of 12,000 bbls. daily. The company has shut down its Burkburnett, Tex., plant and will dismantle it.

By March 1, the Phillips Petroleum Co. expects to have its Borger, Tex., skimming plant enlarged to 7,500 bbls. daily. Its present capacity is 2,500 bbls. daily. The Pioneer Oil & Refining Co. expects to enlarge its Somerset, Tex., skimming and lub capacity this year. Its present capacity is 1,500 bbls. daily. On January 30 the Terminal Oil & Refining Co. resumed cracking operations at its Texas City, Tex., refinery.

The Utah Oil Refining Co. has enlarged the cracking capacity of its Salt Lake City, Utah, refinery through the installation of Holmes-Manley cracking units. The refinery for several years has had a large number of Burton cracking stills in operation. The combined capacity of the Burton and Holmes-Manley stills totals 9,000 bbls. or twice the rated capacity of 4,500 bbls. daily.

The Diamond Oil Co. at Virgin, Utah, expects to start operating its skimming plant within 90 days.

The Standard Oil Co. of New Jersey, the largest single refining organization in the United States without including any of its subsidiary organizations, did not change the capacities of its refineries materially during the past year. Its six refineries have a total crude oil capacity of 211,000 bbls. with 206,000 cracking capacity.

The Tri-State Refining Co. is enlarging its 2,000-bbl. skimming plant at Kenova, W. Va., to include lub and cracking plants. One cracking unit of the Jenkins type is being installed.

BRITISH TARIFF ON OIL FROM RUSSIA DOUBTED

By N. O. Fanning

New York Bureau, The Oil and Gas Journal

NEW YORK, Feb. 11.—A. S. Debenham, a director of the Royal Dutch Co., arrived in New York to attend a meeting of the Shell Union Oil Co., subsidiary of the Dutch-Shell group. He represents Sir Henri Deterding, who is in Switzerland. Mr. Debenham will also make a study of oil conditions in the United States "to learn the exact status of future production."

A representative of the largest American oil exporting concerns just returned from England says: "I heard no reports while in England that Great Britain was contemplating a tariff on imports of Russian oil, as reported here. I think we would have heard something about it if such a step were imminent."

Regarding the dispute between the Dutch-Shell and Standard Oil Co of New York and Vacuum Oil Co. over the purchase by the American companies of Russian oil for India and Egypt markets, Russian oil is still confined to those two countries. It can be said on good authority there is little likelihood of its spreading.

Because the Soviet oil agencies are underselling both Dutch-Shell and Standard Oil in Great Britain, Britishers are getting cheaper oil products than they otherwise would. In addition, British companies, as well as American, stand to lose, if Russian competition is concentrated more in France, Germany and other European countries, what they might gain by the exclusion of Russian oil from Great Britain.

CORROSION COMMITTEE WILL MEET FEBRUARY 23

E. W. Clark, president of the American Petroleum Institute has appointed a general committee on corrosion for 1928 to make and supervise the program directed towards the minimization of corrosion in the petroleum industry. The committee will hold its first meeting at the Statler Hotel, St. Louis, February 23. Membership of the committee follows: Chairman, R. P. Anderson, American Petroleum Institute; vice chairman, F. N. Spe ler, National Tube Co.; secretary, D. V. Stroop, American Petroleum Institute, P. R. Applegate, Northern Pipe Line Group, 26 Broadway, New York; E. P. Bly, Standard Oil Co. of California, San Francisco; E. S. Dixon, The Texas Company, Houston, Tex.; Stanley Gill, Gulf Production Co., Houston, Tex.; A. E. Harnsberger, Pure Oil Co., 35 East Wacker Drive, Chicago; W. P. Haseman, Marland Refining Co., Ponca City, Okla.; W. G. Heltzel, Sinc'air Oil & Gas Co., Tulsa, Okla.; H. F. Perkins, Gulf Refining Co., Port Arthur, Tex.; Ralph J. Reed, Union Oil Co. of Calif., Los Angeles; Walter Samans, Atlantic Refining Co., 3144 Passyunk Ave., Philadelphia; L. A. Turnbull, Sun Oil Co., Marcus Hook, Pa.; J. C. Walker, The Empire Cos., Bartlesville, Okla.; C. R. Weidner., Prairie Pipe Line Co., Independence, Kans., and H. W. Young, Midwest Refining Co., Denver, Colo.

PROGRESS IN STORAGE AND WEST TEXAS LINES

HOUSTON, Tex., Feb. 13.—Construction of additional storage facilities for 2,970,000 bbls. of crude has been started by three large buyers in West Texas fields. The largest storage building program is under way by the Illinois Pipe Line Co., which is putting up 25 more 80,000-bbl. tanks at its Del Rio tank farm.

Humble Pipe Line Co. is to build ten 65,000-bbl. storage tanks in the Hendricks Pool of Winkler County, while the Southern Crude Oil Purchasing Co. will build four 80,000-bbl. tanks.

These companies are rushing their crude outlets and the Illinois Pipe Line Co. already is unloading pipe for the 10-inch line it will lay from Del Rio tank farm to the Humble Pipe Line Co.'s West Texas-Ingleside line. This line will connect with the Humble line at the Lytle station south of San Antonio.

Humble Pipe Line Co. has completed approximately 75 per cent of its new 8-inch line from Winkler County to McCamey in Upton County. Humble has announced that as soon as this line is completed it will loop it.

Shell Pipe Line Co. has completed more than 30 miles of its line out of McCamey which eventually will connect with the Ozark Pipe Line Co. line out of Healdton, Okla.

LOUISIANA'S NOMINEE FOR GOVERNOR AND OIL

By D. H. Bancroft

SHREVEPORT, La., Feb. 13.—Since the recent upheaval in Louisiana state politics and the nomination of Huey P. Long of Shreveport as governor, which amounts to his election, many persons in and out of the oil and gas industry in Louisiana and elsewhere are in doubt as to just what to expect from his administration, what its attitude toward the industry will be. Having in mind his scrap a few years ago with the Standard Oil Co. of Louisiana not a few are rather apprehensive, but some of those close to him declare there is no reason for the industry to fear any unfriendly developments.

But there are certain elements, certain situations existing, in New Orleans and elsewhere where his administration promises plenty of interesting copy for the newspapers. With the Terrebonne Parish gas fields 50 miles away, the Monroe fields in the northeastern part of the State needing only pipe line connection long projected but only recently built, New Orleans has for years been an artificial gas town and one of Mr. Long's campaign pledges was to make it a natural gas town. The city's gas franchise is owned by a locally owned company and it has long been complained that circumstances have kept natural gas out of the community all these years.

During his campaign, Mr. Long declared that he is unalterably opposed to the interstate transportation of natural gas until after Louisiana's present and prospective needs have been met and as much of the State as possible reached by pipe lines and distributing systems.

The construction of another pipe line drawing from the Richland Field which will extend squarely through the central portion of the State and serve most of the territory in the southern half between New Iberia, a short distance west of New Orleans, and cities along the Texas border is progressing and this undertaking will do much to overcome administrative opposition to construction of future interstate gas pipe lines, such as the proposed Richland-Memphis-St. Louis line. This central Louisiana line, by construction of laterals east and west, could reach practically every community of any size from the source of supply to the Gulf, and from the Mississippi to the Texas line.

SOUTHWEST WILDCATS

(Continued from Page 49)

77, 75, is deepening from 424 where well tested oil and gas. J. E. Harston's No. 1 H. Guerra, Survey 43, located 660 feet to south line and 1,320 feet to eas tline, is standing at 500 feet.

Duval County

National Oil Co.'s No. 1 Ball, Survey 16, located 450 feet to north line and 150 feet to east line, is drilling at 790 feet. Houston Oil Co.'s No. 1 Woods-Welder, Survey 233, (S&M) located 1,750 feet to west line and 100 feet to north line, is rigging up.

Jim Hogg County

T. G. Shaw's No. 1 Jones, Survey 381, Block 12, located 171 feet to south line and 486 feet to west line, is drilling at 1,520 feet.

Caldwell County

Dr. Butte and others' No. 1 R. W. Boyd, J. R. Miller Survey, 6 miles south of Lockhart, has derrick up and moving in machinery. Lu-Tex Oil Co.'s No. 1 Wilson, A. Floyd Survey, 2,320 feet to east line and 200 feet to south line, 2 miles northeast of Luling has set surface casing at 40 feet. Dickinson & Smith's No. 1 Martin Callahan, Willard Cooper Survey, at 2,406 feet is shut down flowing sulphur water. Detex Oil Co.'s No. 1 Hardeman, 4 miles north of Luling is shut down at 3,075 feet. Charley Hirtz and others' No. 1 Will Parr, Byrd Lockhart Survey, 200 feet to north line of farm and 2,700 feet east of Austin road, is drilling at 160 feet. The Texas Company's No. 1 Robuck, Ben McCulloch Survey, 1,200 feet to southwest lines and 600 feet to southeast lines, is drilling at 2,440 feet in Taylor Marl. H. C. Ratclifee's No. 1 Brisco, James Hindes Survey center, is rigging up; No. 1 J. L. New, same survey, 150 feet to west line and 600 feet to south line, is shut down at 2,914 feet in Edwards lime.

Dimmitt County

Humble Oil & Refining Co.'s No. 1 City National Bank, Survey 654, located 700 feet to north lines and 2,000 feet to east line, is drilling at 4,868 feet.

Edwards County

Devil's River Oil Co.'s No. 2 Turney, CCSD & RGNG Section 167, located 2,040 feet to north line and 660 feet to west line and 600 feet north of No. 1, is shut down at 440 feet with oil showing at 390 feet.

LOUISIANA-ARKANSAS

(Continued from Page 46)

tion Co.'s No. 1 Dumas, SE cor. NE NW SW, Section 11-17-14, which came in spraying a small amount of light oil with an estimated 15,000,000 feet of gas from 4 feet of sand 3,065-69 feet and settled down to 15 bbls. oil and 10,000,000 feet of gas. It had previously shown up dry in the Gregory sand at 2,864 feet whence the Keen & Woolf No. 1 Gregory in Section 10-17-14, southwest extension well, is producing, and showed for 10,000,000 feet of gas on test at 3,061 feet.

Red River 40, Elm Grove, 20, Bellevue 30 and Urania 180 bbls; Smackover light declined 30 bbls., Smackover heavy 810, El Dorado 60, Stephens 25, Nevada County 565, Lisbon 25, and Champagnolle 75 bbls. Bradley was stationary with 100 bbls.

Daily average runs from the several pools were as follows:

Louisiana	
Caddo light	11,840
Caddo heavy	3,925
Homer	4,460
Haynesville	6,400
DeSoto-Red River	4,235
Elm Grove	555
Bellevue	970
Cotton Valley	4,565
Urania	8,000
Pleasant Hill	675
Total	45,625
Arkansas	
El Dorado	5,060
Smackover light	8,625
Smackover heavy	68,355
Stephens	1,075
Nevavda County	1,835
Lisbon	2,385
Champagnolle	1,135
Bradley	100
Total	88,570
Total both states	134,195

SHOOTER'S LIFE LOSES OLD-TIME THRILLS

(Continued from Page 31)

11 to 22 hours to elapse before their mechanism explodes the shot. The time allowed depends upon the amount of preparation required. Sometimes it is necessary to pull the casing when it is frozen in the hole or when an especially big shot is needed.

The electric squib is employed in cases where an unusual amount of time is desired before setting off the shot. After the shells have been lowered to their place in the well the squib—a tin shell 2 feet long, 3 inches in diameter and containing two quarts of nitroglycerin—is lowered by means of a taped electric wire. Attached to the end of this wire, inside the shell and in direct contact with the nitroglycerin, is an electric exploder. As the casing is pulled, the joints, one by one, are stripped over the wire. When all is ready the squib is touched off by detonation, with resultant explosion of the shot on which it is resting.

Other Squibs Used

Other squibs used are the jack squib, the line squib and the bumper squib.

The jack squib is made with a tin shell, usually about 5 feet long and 2 inches in diameter, with an inner tube containing about one-eighth of a pint of nitroglycerin. Waterproof fuse is wrapped around this inner tube and connected with a fulminate of mercury cap attached at the bottom. The bottom of the shell is filled with sand and mud on which the glycerin tube rests. About the tube is packed sand, which also fills the space above the inner tube. This sand both weights the squib and serves as an absorbent in case any of the glycerin leaks out. The fuse extending from the top of the shell is lighted and the device is dropped into the hole. This type of squib is not practicable in holes containing 500 or so feet of water, for the pressure of the water in this case would extinguish the fuse.

The line squib is made with a tin shell about 15 inches long, containing about a quart of nitroglycerin. It is fitted with percussion caps and a firing-head. It is lowered by means of a wire to the top of the charge in the hole. Then a 2-foot length of pipe is allowed to slide down over the wire. The pipe hits the firing-head, explodes the percussion caps and the glycerin in the squib, and thus the shot previously placed in the hole.

The bumper squib is made in two parts. The lower part is similar to a line squib. The upper part is a shell about 4 feet long and 2 inches in diameter. A 6-pound sash-weight is manipulated by means of a wire running through an eye in the bail at the top of the upper tube. Another weight attached to the bottom of the squib carries it down the hole. While the device is being lowered the wire attached to it is kept taut. When the squib rests on top of the shot in the well the wire is slackened suddenly, causing the upper sash-weight to strike the firing pin and explode the shot as in the case of the line squib. As an additional measure of safety shells and squibs are sometimes made with water jackets.

In the Texas Panhandle virtually all wells are shot through use of the bomb. In the Breckenridge Field, where the holes range from 700 to 3,500 feet in depth, and in the Ranger district, where the wells are about 3,100 feet deep, the jack squib is used principally, though sometimes the bomb is employed.

Spontaneous Explosions

Of interest here is the fact that in the deeper wells of the last two mentioned districts, the nitroglycerin shots explode spontaneously, no squib being required. This capacity of the shots to explode themselves was discovered by accident. A shot had been placed in a hole in the Ranger district and was waiting for Bill Swartz to set it off. As Bill arrived at the well the shot went off without his help. Experiment then disclosed that shots left in the hole of such wells could could be depended upon to explode spontaneously within 48 to 72 hours. The exact cause of this phenomenon is not clear, though it has been the subject of investigation.

The oil-well shooter is called in when a dry hole is to be abandoned and it is decided to shoot off frozen casing to release it. For this operation a special casing squib is used. The casing squib is a line squib with four heavy wire wickers that point upward. These wickers permit the squib to be lowered, but prevent it from being drawn back past a coupling, for the outer ends of the wickers spring into the recess between the ends of casing in the collar and are held there. When the squib has been lowered to the point at which it is desired to explode it, the squib line is pulled back till the wickers engage in the nearest coupling above it. The squib is held in that position while a short length of pipe is sent down over the line to hit the firing-head. The squib shot springs the collar and releases the casing. If the casing is frozen at some point higher up, further shooting may be required.

With the shooter's life divested of most of its thrills as a result of modern safeguards, the stories of narrow escapes have to do chiefly with the earlier years of the business.

"Back in the days when you used to shoot wells yourself you must have had some close calls," it was suggested in the course of conversation with Bill Swartz.

"Oh, some," he admitted.

Sitting Over Swift Death

Pressed for an instance, he told of one midwinter day back in 1909 when he started out to shoot a well for Mike Delaney in the Glenn Pool. In his old-fashioned horse-drawn wagon he drove to the magazine 4 miles from Sapulpa. The wagonbox had a capacity of twenty 10-quart cans, but 24 were needed for the job in hand, so Bill placed four additional cans in the front part of the wagon under the seat, wrapping them with a blanket. As he drove over a rough place in the dirt road there was a sharp crack.

"There goes a wagon spring," Bill said to himself and he got out to investigate.

The springs were undamaged, but attached to the "fifth wheel," a part of the running gear above the axle connecting the two front wheels, was a mass of frozen nitroglycerin as large as a man's head. One of the four cans over which Bill had sat had been leaking and the liquid explosive had been trickling down onto the fifth wheel, where in the cold atmosphere it had thickened and frozen as it accumulated. In some way—Heaven only knows how—a drop of the fluid had been exploded by friction somewhere on its way down into the running gear, and without setting off the 240 quarts of swift and informal separation from earthly affairs.

Bill removed the leaking can and walked to a nearby engine house, where he got hot water with which he washed the frozen mass of nitroglycerin from its mooring beneath the wagon seat. It was an unusually solemn Bill who drove on and performed the shooting job at Delaney's well.

"Didn't it get your nerve?" Bill was asked.

"No-o-o-o, but I didn't feel quite right in my stomach for a few weeks," he grinned.

Filling shells with nitroglycerin in preparation for a shooting job.

MAGNETIC ANOMALIES OF TEXAS PANHANDLE

(Continued from Page 30)

therefore represents the anomaly at the station thus scaled. A maximum anomaly of plus 395 gammas of H are thus shown on the graph.

Vertical Structure Section

Below the graphic chart and drawn to the same horizontal positions is shown a vertical structure section of the Panhandle arch along the line of this survey. The subsurface positions of the top of lime, granite wash and solid granite are definitely known from well log records for the locality of Pampa, Wilcox and Bowers Fields and four positions of the top of lime and granite wash are known from well records in the district between Bowers Field and Alanreed but no well has been reported showing solid granite in this district. From the similarity of lime and granite wash positions, as well as the recurrent magnetic phenomena, it seems highly probable that the known granite ridge between Wilcox and Bowers Fields has its counterpart about 10 miles to the south of it.

By comparison of the chart and structure section it immediately becomes evident that the Panhandle arch causes a profound disturbance in the flow of magnetic currents. The total intensity is increased about 500 gammas above the norm and the inclination is increased 32 minutes of arc above the average of the terminal stations. This increase occurs at a point just north of the north granite ridge. The most significant pha-

nomenon developed by the chart is that the general increase in inclination caused by the main granitic body is duplicated in detail by the separate apices thereof.

Facilities for interpreting magnetic measurements in terms of structure are found in the increase in Z and decrease in H factors which occur on the north side of the dense masses. This indicates an increase in inclination, probably without change in total intensity. The very sharp reversal in direction of the H line from descending to ascending trend just as the summit of the granite ridge is reached, indicates an increase in total intensity and the continuance of this uptrend on the H line after crest of the ridge is passed, in conjunction with the downturn of the Z line, indicates a decrease in the angle of inclination. In the survey under discussion, these sharp changes in direction of the intensity lines can be regarded as marking the shoulders of the dense mass which influences the magnetic force.

The greater conductivity of the granite as compared to that of the sedimentaries is probably due to its iron content. It would appear that the same amount of iron would probably remain in the granite wash and probably exert the same influence but the results of this survey do not seem to bear this out. Another unknown factor is the intervening salt beds. Since they are thicker in the synclines than over the crest of the arch, the known diamagnetic properties of this material may account for some of the variation in intensity but it probably would have no effect upon inclination. Whatever structural or petrologic features may exert an unknown influence upon the magnetic currents, the influence of the buried granite ridges of the Panhandle structure is so pronounced as to render their location by magnetic surveys a matter of certainty.

OKLAHOMA FIELDS

(Continued from Page 44)

1 Williams, NW cor., Section 32-19-4w was completed for 336 bbls. in Wilcox sand 6,088-6-100 feet and 6,175-78 feet.

Marland Oil Co.'s No. 1 Gragg, SW cor. NE, Section 16-18-4w, has been completed for 413 bbls. oil and 4,000,000 feet of gas in Tonkawa sand 3,984-4,001 feet.

Beckham County

Prince Brothers, Martin & Atlantic Oil Producing Co.'s No. 1 Taylor, C SW NW, Section 5-8-23w has been abandoned at 3,003 feet.

Caddo County

English Drilling Co.'s No. 3 Cutshall, NW cor. SE, Section 5-5-9w set 8-inch casing at 2,086 feet, drilled to 2,420 feet and made 70 bbls.

Comanche County

Danciger Oil Co.'s No. 1 Spitler, NE cor. SE, Section 10-2-10w has been abandoned at 2,203 feet.

Cotton County

Jenkins and others' No. 2 Smith, SW cor. SE SE, Section 34-1s-10w made 25 bbls. from sand 2,175-84 feet.

Grady County

Oklahoma Gas Utilities Corp. has the rig up for No. 5 Farwell, NW cor. SW SE, Section 23-5-8w. Wirt Franklin Oil Corp. has built the rig for No. 1 Garden, SE cor. SW NE, Section 1-4-7w. Commercial Development Co.'s No. 1 Crisman, C NE NE, Section 21-4-7w is rigging up rotary tools.

Meridian Gas Co.'s No. 4-A K. Farwell, NE cor. SE, Section 23-5-8w is making 5,500,000 feet of gas from sand 1,998-2,040 feet. Oklahoma Gas Utilities Corp.'s No. 4 Farwell, NE cor. SW NE, Section 23-5-8w, cemented pipe at 2,090 feet, drilled to 2,400 feet and made 25,000,000 feet of gas. Oklahoma Gas Utilities Corp.'s No. 2 Wood, NE cor. NW, Section 2-4-8w has been completed for 60,000,000 feet of gas from 2,120 feet where pipe was set, to 2,400 feet. Wirt Franklin Oil Corp.'s No. 1 Burke, SE cor. NE SE, Section 17-3-5w has been abandoned at 2,776 feet.

Muskogee County

P. Boyle and others' moved a machine out for No. 2 Simmons, CWL SW NE, Section 10-15-15. Bryan & Emery's No. 1 Lowery, NW cor. SW NW SW, Section 9-15-15 is dry and abandoned at 1,665 feet. Hale-Ford Oil Co.'s No. 2 Clark, SW cor NW SE, Section 6-14-19 is making 225 bbls from sand 512-22 feet.

Hughes County

Transcontinental Oil Co. made location for No. 1 Diamond, SE cor. NW, Section 6-8-10.

Jefferson County

Beck & Lapham's No. 1 Seay, SW cor. SE SW, Section 34-6s-5w has been completed for 20 bbls. in sand 1,332-37 feet.

McIntosh County

J. Aggas' No. 5 Porter, SW cor., Section 3-12-14 is drilling at 865 feet.

Okmulgee County

Roach & Love moved the rig out for No. 2 Kennedy, SE cor. NE, Section 15-15-12. Denver Producing & Refining Co.'s No. 7 Thomas, CNL SW NE, Section 32-13-11 is being deepened form 3,130 feet, now drilling at 3,160 feet. B. Morgan has the rig up for No. 1 Myers, SE cor. SW, Section 11-11-13.

T. H. McBrayer and others' No. 2 Tucker, SW cor. NW, Section 9-15-14 is making 8,000,000 feet of gas from sand 1,823-33 feet. J. E. Wallace's No. 6 Colbert, CWL NW SE, Section 14-14-14 was completed for 10 bbls. in sand 1,675-81 feet. J. L. Powell's No. 1 Deer, NE cor. SE NE, Section 20-14-15 is a dry hole at 1,453 feet.

Papoose Oil Co.'s No. 2 Francis, SW cor. SE, Section 25-16-13 is dry and abandoned at 2,369 feet. B. Shepherd's No. 1 Burgess, NW cor. NE NW, Section 20-12-13 made 10 bbls. from sand 2,099-2,115 feet.

Pontotoc County

American Oil & Refining Co. is erecting the rig for No. 1 Brown, SW cor. SE, Section 27-5-6. C. B. Shafer is building the rig for No. 5 Yoakum, SW cor. Section 9-5-8.

Conservation Oil & Gas Co.'s No. 1 Brown, NW cor. NE, Section 28-5-6 has been abandoned at 3,520 feet. Louisiana Oil Refining Co.'s No. 7 Harjo, NW cor. SW SW, Section 17-5-8 Allen Pool has been completed for 20,000,000 feet of gas in sand 2,627-2,704 feet. Homaokla Oil Co.'s No. 1 Berry, SE cor. NE SE, Section 19-5-8 made 655 bbls. from sands 2,483-2,540 feet and 2,540-71 feet.

Stephens County

Wirt Franklin Petroleum Corp. is building the rig for No. 4 Brittain, NW cor. SW SE, Section 12-1s-4w. Skelly Oil Co. is putting up the rig for No. 7 Krebbs, SE cor. SW SE, Section 13-1s-4w. Magnolia Petroleum Corp.'s No. 2 D. Bartley, NW cor., Section 20-1s-8w is rigging up standard tools to deepen from 2,218 feet. Fisher & Rankin's No. 1 Callahan, CSL SE SE, Section 21-1s-8w is is a rig under construction. Hupp & Duff's No. 3 Burk, NW cor. SW NW NE, Section 34-1s-8w is rigging up rotary tools. Magnolia Petroleum Co.'s No. 5 Harris, NE cor. SE NW SW, Section 36-1s-5w is drilling at 1,300 feet. Turman Oil Co.'s No. 1 Burke, NW cor., Section 4-2s-8w is an old well to be deepened below 1,985 feet.

Magnolia Petroleum Co.'s No. 3 Shaffer-Young, SW cor. SE SW, Section 29-1-8w has been abandoned at 2,510 feet. Medlin and others' No. 1 Burke, NW cor. NE, Section 34-1s-8w is flowing 180 bbls. from sand 1,682-89 feet.

Sequoyah County

Citizens Gas Co. has the rig up for No. 1 Greenstreet, SW cor. NE SE, Section 33-12-27.

Wagoner County

Elk Drilling Co.'s No. 1 Norfer, NE cor., Section 23-18-15 is dry and abandoned at 1,040 feet. C. R. Cane's No. 1 Williams, CSL NE SE, Section 35-17-17 is making 8,000,000 feet of gas from sand 885-92 feet. Commercial Development Co.'s No. 4 Elder, SW cor. NW NW, Section 6-16-15 has been abandoned at 1,568 feet.

Murray County

Gilcrease and others' built the rig for No. 1 Wolf, NE cor. SE SE, Section 20-1-2.

Osage County

Osage Gas Products Co.'s No. 385 SE cor. SW NW, Section 5-27-11 is drilling at 430 feet. Lewis Production Co. is building the rig for No. 6, SE cor NW SW, Section 2-26-6. Standish Oil Co. made location for No. 7 NW cor. SE, Section 2-25-11. Davis & Wright built the rig for No. 1, NW cor. NE SW, Section 5-21-9.

Kewanee Oil & Gas Co.'s No. 2 SW cor. SE NE, Section 28-27-6 made 505 bbls. natural in 16 hours from Burbank sand 2,893-2,972 feet. No. 5 NE cor. SW NE, Section 28-27-6 flowed 740 bbls. natural in 11 hours from Burbank sand 2,874-2,959 feet. No. 6, NE cor. SW SE, Section 34-27-6, produced 230 bbls. from Burbank sand 2,803-67 feet. Lewis Gas Products Co.'s No. 1, NW cor. SW, Section 2-26-6, had Burbank sand 2,806-80 feet and made 690 bbls. naturally and 861 bbls. after the shot. No. 2, SW cor. NW SW, Section 2-26-6, flowed 900 bbls. from Burbank sand 2,846-2,913 feet after the shot. Peters Petroleum Co.'s No. 2, NW cor. SW, Section 26-25-9, was shot with 140 quarts in sand 2,131-65 feet and made 200 bbls. No. 3 NE cor. NW SW, Section 26-25-9 made 762 bbls. from Bartlesville sand 2,104-50 feet. Tidal Oil Co.'s No. 3 SW cor. SE SE, Section 28-21-10 was completed for 25 bbls. in Peru sand 1,515-35 feet. Devonian Oil Co.'s No. 4 NW cor. NE NE, Section 33-21-10 made 30 bbls. from Peru sand 1,512-26 feet. The Prairie Oil & Gas Co.'s No. 1 NW cor. SE, Section 19-23-7 has been abandoned at 3,180 feet.

Okfuskee County

J. J. Deaner and others' rig is up for No. 3 Grayson, NE cor. SE SW, Section 3-12-11.

Pottawatomie County

George W. Boles has spudded No. 1 Rawley, SE cor. NW, Section 25-7-3. Gypsy Oil Co. is building the rig for No. 2 Sullivan, SW cor. NE SE, Section 25-7-3. Magnolia Petroleum Co.'s No. 2 Harper, NE cor. SW, Section 25-7-3 is a rig going up. Pierce Oil Corp. has the cellar dug for No. 2 Davis, SW cor. SE NE, Section 25-7-3. Continental Oil Co. is erecting the rig for No. 4. Neghnguit, SE cor. NE NW, Section 19-7-4 Pearson Pool. The rig is also being built for No. 5 Neghnguit, NE cor. NW, Section 19-7-4.

Indian Territory Illuminating Oil Co.'s No. 1 Sullivan, SW cor. NW SE, Section 25-7-3 made 3,030 bbls. initial from Viola lime 4,204-13 feet. Independent Oil & Gas Co. and others' No. 2 Hamby, NW cor., Section 14-7-4 Pearson Pool swabbed 100 bbls. from Hunton lime 3,651-3,800 feet. Magnolia Petroleum Co.'s No. 2 Talley, SE cor. SW NW, Section 19-7-4 swabbed 140 bbls. from Hunton lime 3,891-3,912 feet.

Tulsa County

A. J. Spears' No. 7 Glenn, SE cor. NE NW, Section 11-17-12 is dry and abandoned at 2,117 feet.

Glidden Oil Corp.'s No. 1 Riverbed, NW cor. SE, Section 15-19-11 is spudding. Jackson & Wise erected the rig for No. 1-A Warrior, SW cor. NW NE, Section 21-19-12.

Rogers County

Skelly Oil Co. and others' No. 1 Spears, NE cor., Section 19-22-17 is dry and abandoned at 733 feet. Creo Oil Co.'s No. 1 Setzer, SE cor. SW NW, Section 25-21-17 has been abandoned at 510 feet. F. C. Ingram's No. 1 Setzer, NE cor. SW, Section 26-21-17 is a dry hole at 538 feet. Skelly Oil Co. and others' No. 1 Bump., CSL SE SE, Section 3-21-17 has been abandoned at 585 feet.

Seminole County

The Texas Company is building the rig for No. 8 Anderson, NE cor. NW SE, Section 2-9-5 Earlsboro Pool. Roxana Petroleum Corp. made location for No. 2 Hearn, SW cor. NE NW, Section 13-9-5. Larkin and others' rig is under construction for No. 1 Cluck, NE cor. NW NW, Section 4-9-6 Searight Pool. The Texas Company is moving the rig in for No. 4 Coker, SW cor. NW SW, Section 1-7-6 Little River Pool. Indian Territory Illuminating Oil Co. is building the rig for No. 4 House "B," SE cor. NE SE, Section 2-7-6.

Mid-Continent Petroleum Corp.'s No. 4 Saloche, SE cor. SW SW, Section 33-10-6, Searight Pool, made 900 bbls. from Wilcox sand 4,460-68 feet. Amerada Petroleum Corp.'s No. 4 Roger, NE cor. SE SE, Section 3-9-5 Earlsboro Pool has been abandoned at 4,020 feet on account of losing the hole. Magnolia Petroleum Co.'s No. 10 Seay, NW cor. SW, Section 12-9-5 made 484 bbls. from Wilcox sand 4,255-4,268 feet. Twin State Oil Co.'s No. 3 Jones, SE cor. NE SE, Section 11-8-6 Bowlegs Pool made 125 bbls. from Wilcox sand 4,205-10 feet. Indian Territory Illuminating Oil Co.'s No. 6 Davis, NW cor. SE SW, Section 13-8-6 was abandoned at 4,385 feet. Empire Oil & Refining Co.'s No. 8 Lacey, NW cor. SW SW, Section 14-8-6 has been abandoned at 4,260 feet after losing the hole. Carter Oil Co.'s No. 3-A Walker, SE cor. SW SE, Section 15-8-6 swabbed 95 bbls. from Wilcox sand 4,370-4,481 feet. Indian Territory Illuminating Oil Co.'s No. 3 Nitey, NW cor. NE NE, Section 2-7-6 Little River Pool made 301 bbls. from Wilcox sand 4,492-95 feet. Sinclair Oil & Gas Co. and Darby Petroleum Co.'s No. 1 Johnson, NW cor. SW, Section 5-7-6 has been abandoned at 4,532 feet. The Prairie Oil & Gas Co.'s No. 5 C. Davis, SE cor. NW NW, Section 13-9-5 made 250 bbls. the first hour from Wilcox sand 4,337-47 feet. No. 5 Templeton, SE cor. SE, Section 12-8-6 is making 125 bbls. an hour from Wilcox sand 4,395-4,411 feet.

WILDCAT OPERATIONS IN WEST TEXAS

(Continued from Page 40)

Marland Oil Co.'s No. 1 B. F. Pippin, C NW Sec. 1,210, W. C. Young Sur. (3,750-ft. test)	New location.
GLASSCOCK COUNTY	
Texon & Marland's No. 1 Settles	Set 10-in. 1,420 ft.; top lime 2,015 ft.; hole full sulphur water 2,710-50 ft.; shut down 3,075 ft.
Meriwether Oil Co.'s No. 1 L. S. McDowell, CNL Sec. 34, Blk. 34, T-2-S, T. P. R. R. Sur.	Building rig.
R. R. Penn's No. 1 Hughes & Johnson	Location.
HOWARD COUNTY	
Bristow & Merrick's No. 1 Dora Roberts	Cem. 8¼-in. casing 1,602 ft.
Coyle-Concord Oil Co.'s No. 4 Dora Roberts, Sec. 156, Blk. 29, W. & N. W.	Cem. 6-in. casing 1,565 ft.
Green O. & R. Co.'s No. 1 H. R. Clay, SE cor. Sec. 127, Blk. 29, W-NW Sur.	New location.
Henshaw et al's No. 1 W. R. Settles, SW SE SW Sec. 135, Blk. 29	Hole full sulphur water 1,325-30 ft.; shut down 1,900 ft.
Lockhart & Co.'s No. 1 Dora Roberts, Sec. 157, Blk. 29,	Top lime 2,064 ft.; top pay 2,990 ft.
Lockhart et al's No. 2 Dora Roberts, Sec. 157, Blk. 29, W. & N. W.	M. O. G.
Marland Oil Co.'s No. 1 Clay-E, NW NE SE Sec. 138, Blk. 29	Pay 2,480-2,580 ft.; swabbed approx. 160 bbls.; hole full salt water 3,360-70 ft.; total depth 3,656 ft.; plugged back to 2,960 ft.; tested 5 gallons oil 2,880-2,920 ft.; shot 100 qts. 2,880-2,920 ft.; tested 10 bbls. oil and 12 bbls. water; plugged back to 2,725 ft.; pumped 120 bbls. first 18 hrs.
Marland Oil Co.'s No. 1 Richardson, C NW Sec. 12, Blk. 32, T. & P. Sur., T-1-S	Top salt 870 ft.; hole full salt water 2,235-2,300 ft.; hole full sulphur water 2,790-2,800 ft. and 3,010 ft.; drlg. 3,290 ft.
Mays, Nixon & Flowers' No. 1 W. J. Flowers	Little salt at 976-97 ft.; top salt 1,114 ft.; shut down 1,290 ft.; preparing to start up.
Miley and Marland Oil Co.'s No. 1 C. D. Read, C NW, Sec. 12, Blk. 31, T. & P. Sur., T-1-N	Spudded and shut down 5 ft.
Oeland & McCaldin's No. 1 Dora Roberts, NW cor. SE Sec. 137, Blk. 29	Drlg. 1,620 ft.

Owens & Sloan's No. 2 Dora Roberts, SW cor. SE Sec. 136, Blk. 29 ..... Topped pay 2,955 ft.; total depth 3,005 ft.; flowed 3,744 bbls.; now shut in.
Owen & Sloan's No. 3 Dora Roberts, Sec. 136, Blk. 29.... Drlg. 250 ft.
Owen & Sloan's No. 4 Dora Roberts, Sec. 136, Blk. 29.... Location.
Schermerhorn Oil Co.'s No. 1 Dora Roberts ..... Total depth 3,000 ft.; top pay 2,966 ft.; swabbing 1,500 bbls. first nine hours.
Sun Oil Co.'s No. 1 W. R. Settles, Sec. 135, Blk. 29..... Drlg. 2,070 ft.
Sprague Oil Co.'s No. 1 Dora Roberts ..... Spudded and shut down.
Sweeney et al's No. 3 Chalk, Sec. 124, Blk. 29 ..... Location.
Sweeney et al's No. 4 Chalk, Sec. 124, Blk. 29 ..... Location.
Tate-Weekley & Tubbs' No. 3 Dora Roberts, NE cor. Sec. 156, Blk. 29, W. & N. W. R. R. Sur. ..... Location.
Texon O. & L. Co. and Marland Oil Co.'s No. 1 Mrs. Connaly, NE cor. Sec. 15, Blk. 33, T. & P. Sur. T-1-N ..... Top salt 1,425 ft.; hole full salt water 1,760-1,800 ft.; show oil 3,065 ft.; hole full sulphur water 3,500-55 ft.; hole full water 3,925-50 ft.; show oil 4,125-36 ft.; preparing to plug 4,400 ft.
Texon O. & L. Co. and Marland Oil Co.'s No. 2 W. R. Settles ..... Shut down for storage; sand at 1,280-84 ft.; total depth 1,298 ft.
Texon & Marland's No. 2 W. R. Settles-A ..... Rig; drlg. water well.
Weekly Oil Corp. et al's No. 1 Dora Roberts, Sec. 156, Blk. 29 ..... Shut down 1,462 ft.

HUDSPETH COUNTY

American Land Co.'s No. 1 Lockhart and Roseborough, C SE Sec. 5, School Blk. 21 ..... Shut down 180 ft. (cor. depth).
Western States Oil Co.'s No. 1 Moore, C SE Sec. 16, Blk. 71, T. & P. Sur., T-6 ..... Shut down for socket 1,175 ft.; 1,000,000 ft. of inflammable gas at 1,130 ft.
Western States Oil Co.'s No. 1 Gardner & Moseley, NE NW Sec. 12, Blk. 18 ..... Shut down 1,000 ft.

IRION COUNTY

P. E. Hill's No. 1 Horney, NE cor. Sec. 2, Blk. 3, H. & T. C. Sur. ..... Hole full water 720-40 ft.; drlg. 750 ft.
F. E. Webb et al's No. 1 J. M. Nutt ..... Spudded and shut down 125 ft.

JEFF DAVIS COUNTY

J. K. Hughes Dev. Co.'s No. 2 Means ..... Drlg. 2,600 ft.
Humble O. & R. Co.'s No. 2 Crecencio Flores, 1,130 ft. N and 850 ft. E of SW cor. Sec. 34, Blk. 58, T. & P. Sur., Twp. 8 ..... Underreaming 3,920 ft.

JONES COUNTY

Garland & Diamond's No. 1 E. D. Glynn, SE cor. Sec. 18, Deaf & Dumb Asylum Lands ..... Fishing 2,430 ft.
Hutson & Weaver's No. 1-A Smith ..... Swabbing 45 bbls. daily sandy lime 2,498-2,504 ft.
Phillips Pet. Co.'s No. 1 O. H. Pomroy, SE cor. SW Sec. 16, Blk. 18 ..... Swabbing 200 bbls. daily 2,463-71 ft.; total depth 2,493 ft.
W. G. Stough et al's No. 1 W. C. Bennett, Sec. 42, Orphan Asylum Sur. ..... Shut down 800 ft.
W. G. Stough and others' No. 1 J. P. Willis, J. C. Patterson Sur. No. 2 ..... Shut down 1,740 ft.

KENT COUNTY

Marland and Texon's No. 1 Bilby ..... Drlg. 395 ft.

KNOX COUNTY

Deep Rock Oil Co.'s No. 1 Moore ..... Drlg. 1,000 ft.
Deep Rock Oil Co.'s No. 1 Big Four, 1,270 ft. S and 2,590 ft. W of NE cor. Sec. 31, Blk. 4 ..... Shut down 3,513 ft.; may deepen to 4,000 ft.

LOVING COUNTY

Delaware Oil Co.'s No. 1 Lockhart & Ramsey ..... Shut down 650 ft.
Lockhart Bros.' No. 1 fee, Sec. 85, Blk. 33, H. & T. C. Sur. ..... Fishing 2,260 ft.
Owens & Sloan's No. 1 W. D. Johnson, C SE Sec. 20, Blk. 53, T-2, T. & P. Sur., elev. 2,934 ..... Top salt 955 ft.; drlg. 3,340 ft.

LYNN COUNTY

Elpo Oil Co.'s No. 1 Nevols, NW cor. Sec. 6, Blk. C-42, School Lands ..... Shut down 675 ft.; drlg. water well 630 ft.
Hart Oil Corp.'s No. 1 C. O. Edwards A-1 ..... Shut down 576 ft.

MENARD COUNTY

Carpenter & Robbins' No. 1 Kothman, NW cor. SW SW Sec. 22 ..... 165 ft. 34.6 grav. oil at 414-15 ft.; fishing 415 ft.
J. C. Barnett and T. H. Drake's No. 1 Callan City Co. Ranch, Sec. 22 ..... Drlg. 528 ft.
Renfro et al's No. 1 J. Davis ..... Shut down 260 ft.

MIDLAND COUNTY

Gholson et al's (was Orbit Oil Co.'s) No. 1 Moreland, C SE Sec. 17, Blk. 39, T. & P. Sur., T-1-S ..... Drlg. 1,010 ft.
Shoup et al's No. 1 Roy Parks ..... Moving in material.

MITCHELL COUNTY

Boehm Drilling Co.'s No. 1 Harry Hyman, CNW SE Sec. 90, Blk. 29, W. & N. W. Sur. ..... Shut down 505 ft.
Magnolia Oil Co.'s No. 5 Foster, Sec. 17, Blk. 29, T. & P... Spudding.
Paul Teas et al's No. 1 A. C. Mills, NW cor. C. A. O'Keefe Sub. 11, J. P. Smith Sur. ..... Drlg. 1,715 ft.; show oil 1,550 ft.
Robert Thraves' No. 1 C. Way, Sec. 91, Blk. 27, T. & P. Sur., T-1-N ..... Total depth 2,508 ft.; shut down.

PECOS COUNTY

Benedum & Trees' No. 1 B. T. Corder ..... New location.
Bob Elmore's No. 2 Holmes ..... Top salt 435 ft.; drlg. 575 ft.
Buell & Hagan's No. 1 Pryor & Wilson ..... Location.
Diamond Pet. Co.'s No. 1 Blackstone & Slaughter ..... Location.
M. C. Dibble & Hale's No. 1 Bonebrake, Sec. 115, Blk. 8, H. & G. W. Sur., elev. 2,555 ft. ..... Shut down 640 ft.
Everett et al's No. 1 J. Fields ..... Spudded and shut down.
Gibson Oil Corp.'s No. 1 R. R. Russell ..... Shut down 1,010 ft.
George A. Henshaw et al's No. 1 B. T. Corder, C SW Sec. 74, Blk. 2, C. C. S. D. Sur. ..... Top salt 1,130 ft.; drlg. 2,460 ft.
Kershaw & Livingston's No. 1 Cannon ..... Underreaming 10-in. casing 885 ft.
Mid-Kansas O. & G. Co.'s No. 1 Pryor &Wilson, NW cor. Sec. 3, Blk. 5, T. C. R. R. Sur. ..... Rigged up and shut down.
Miller & McNees' No. 1 W. C. Tyrrell ..... Cellar.
Moody Oil Corp.'s No. 1 B. T. Corder, C SW Sec. 77, Blk. 2, C. C. S. D. Sur. ..... Fishing 2,965 ft.
Quinby Oil Co.'s No. 2 Bennett, C NW 592, Blk. 105, G. C. & S. F. Sur., elev. 2,560 ft. ..... Cleaning out 1,465 ft.
Quinby Oil Co.'s No. 1 A. A. Gray, 660 ft. N and 1,320 ft. E SW cor. Sec. 593, Abst. 3,009, elev. 2,551 ft. ... Shut down 700 ft. to deepen.
B. J. Spikes' No. 1 George Brown ..... Shut down 625 ft.
Stidham & Thrashe 's No. 1 Belgrade Ranch Co., Sur. 3, Mrs. S. Tompkins A-4,695 ..... Location.
Transcontinental Oil Co.'s No. 1 Blackstone & Slaughter, Sec. 29, Blk. 129, St. L. Sur., elev. 3,539 ft. ..... 250 ft. sulphur water in black sand 1,150-80 ft.; small show oil 1,510 ft.; show gas 1,540 ft.; show oil 2,080 ft.; brown sand 3,560-70 ft.; 250,000 ft. gas at 3,565 ft.; drlg. 4,805 ft.
Transcontinental Oil Co.'s No. 1 University, NE NW SW Sec. 18, Blk. 18 ..... Rig.
Vacuum Oil Co.'s No. 1 Elsinore Cattle Co. ..... Spudding.
World Oil Co.'s No. 1 Kloh, Sec. 47, Blk. 45, Twp. 8, T. P. R. R. Sur., elev. 2,810 ft. ..... Drlg. 725 ft.
World Oil Co.'s No. 1 Serf, C NE Sec. 10, Blk. 130, T. & St. L. Sur., elev. 3,435 ft. ..... Drlg. 865 ft.

Yates Pool, Pecos County

Pandem Oil and Gibson Oil Co.'s (was Allsman & Bell's) No. 6 River Bed ..... Rig.
Pandem Oil and Gibson Oil Co.'s (was Allsman & Bell's) No. 8 River Bed ..... Hole full of fluid, 35% water; shut down 1,095 ft.
Pandem Oil and Gibson Oil Co.'s (was Allsman & Bell's) No. 9 River Bed ..... Driving piling.
Pandem Oil and Gibson Oil Co.'s (was Allsman & Bell's) No. 10 River Bed ..... Shut down 900 ft.
Pandem Oil and Gibson Oil Co.'s (was Allsman & Bell's) No. 12 River Bed ..... Drlg. 485 ft.
Pandem Oil and Gibson Oil Co.'s (was Allsman & Bell's) No. 13 River Bed ..... Location.
Pandem Oil and Gibson Oil Co.'s No. 14 River Bed ..... Location.
Pandem Oil and Gibson Oil Co.'s No. 15 River Bed ..... Location.
California Co.'s No. 2 Yates, Sec. 34, Blk. 194 ..... Rig.
California Co.'s No. 9 Yates, Sec. 34, Blk. 194 ..... Top pay 1,235 ft.; flowed 4,0[illegible] bbls. 8½ hrs. through one 4-in. line; total depth 1,330 ft.
California Co.'s No. 10 Yates, Sec. 34 ..... 25,000,000 ft. gas and 75 bbls. oil per hr. 1,030 ft.; shut in.
California Co.'s No. 11 Yates, Lease 1 ..... Top pay 1,250 ft.; total depth 1,390; 200 bbls. per hr.
California Co.'s No. 12 Yats, Lease 1 ..... Show gas 490-95 ft.; shut down 1,203 ft.
California Co.'s No. 13 Yates, Lease 1 ..... Shut down 1,282 ft.
California Co.'s No. 10 Smith, Lease 3 ..... Drlg. 1,315 ft.
California Co.'s No. 11 Smith, Lease 3 ..... Cleaning out 487 ft.
California Co.'s No. 12 Smith, Lease 3 ..... Cellar.
Day Bros. & McKnight's No. 1 Yates, NW cor. Sec. 58, Blk. 1 ..... Top salt 440 ft.; drlg. 1,150 ft.
Douglas Oil Co.'s No. 2 J. T. Sellman ..... Hole full salt water 795-940 ft.; 25 ft. sulphur water 1,614-15 ft.
Gulf Prod. Co.'s No. 8 Smith-A ..... Drlg. 1,000 ft.
Gulf Prod. Co.'s No. 9 Smith-A ..... Drlg. 980 ft.
Humble Oil Co.'s No. 4 M. A. Smith-B ..... Top pay 1,522 ft.; made one 10-bbl. head; drlg. 1,551 ft.
McDonald et al's No. 1 A. A. Parsell, C NW SE Sec. 28, Blk. A, G. C. & S. F. R. R. Sur. ..... Rig.
McMan O. & G. Co.'s No. 2 J. H. Tippett ..... Set 6-in. 1,255 ft.; top pay 1,[illegible] ft.; hole full oil; drlg. 1,342 ft.
Madza and Savoy's No. 2 Smith, Sec. 24, Blk. 194 ..... Location.
McMan and Marland's No. 16 Yates ..... Rig.
Marland Oil Co.'s No. 11 Yates-A ..... Location.
Marland Oil Co.'s No. 12 Yates-A ..... Location.
Marland Oil Co.'s No. 13 Yates-A ..... Location.
Michelson & Tabot's No. 1 River Bed ..... Spudded and shut down.
Mid-Kansas and Transcontinental's No. 14 Yates-A ..... Waiting on machine.
Mid-Kansas and Transcontinental's No. 15 Yates-A ..... Rig.
Mid-Kansas and Transcontinental's No. 16 Yates-A ..... Drlg. 320 ft.
Mid-Kansas and Transcontinental's No. 17 I. G. Yates-A, Sec. 31, Blk. 194 ..... Location.
Mid-Kansas and Transcontinental's No. 10 Yates-B, Sec. 61, Blk. 1 ..... Drlg. 1,208 ft.
Mid-Kansas and Transcontinental's No. 12 Yates-B ..... Drlg. 325 ft.
Mid-Kansas and Transcontinental's No. 18 Yates-B ..... Show oil 1,095 ft.; flowed sulphur water 1,108 ft.; cem.; plugging back.
Mid-Kansas and Transcontinental's No. 19 Yates-B ..... Top pay 1,118 ft.; shut down 1,2[illegible] ft.; flowed 804 bbls. through 4-in. line in 14 hours.
Mid-Kansas and Transcontinental's No. 20 Yates-B ..... Top pay 1,155 ft.; flows 300 bbls. per hr.; drlg. 1,305 ft.
Mid-Kansas and Transcontinental's No. 21 Yates-B ..... Fishing 1,014 ft.
Mid-Kansas and Transcontinental's No. 22 Yates-B ..... Rigging up.
Mid-Kansas and Transcontinental's No. 6 Yates-C ..... Rigging up.
Mid-Kansas and Transcontinental's No. 10 Yates-C ..... Location.
Mid-Kansas and Transcontinental's No. 1 Yates-F ..... Gas blew tools out of hole 567 ft. run. 10-in. to 715 ft.
Mid-Kansas and Transcontinental's No. 2 M. A. Smith .. First oil and gas show 1,095 ft.; top pay 1,110 ft.; shut down 1,245 ft.; flowing 97 bbls.
Mid-Kansas and Transcontinental's No. 7 Smith-Taylor... Set 6-in. 1,246 ft.; drlg. 1,378 ft.
Mid-Kansas and Transcontinental's No. 8 Smith-Taylor... Top pay 1,240 ft.; drlg. 1,320 ft.; flowing 890 bbls. daily.
Mid-Kansas and Transcontinental's No. 9 Smith-Taylor... Waiting on machine.
Mid-Kansas and Transcontinental's No. 10 Smith-Taylor.. Drlg. 1,150 ft.
Mid-Kansas and Transcontinental's No. 11 Smith-Taylor.. Drlg. 520 ft.
Mid-Kansas and Transcontinental's No. 12 Smith-Taylor.. Drlg. 870 ft.
Mid-Kansas and Transcontinental's No. 13 Smith-Taylor.. Cellar.
Mid-Kansas and Transcontinental Co.'s No. 14 Smith-Taylor, Sec. 33, Blk. 194, G. C. & S. F. R. R. Sur. .... Location.
Oregon Oil Corp.'s No. 1 Yates ..... Drlg. 700 ft.
Phillips Pet. Co.'s No. 1 Mrs. M. A. Smith ..... Run 8-in. 776 ft.; shut down 1,[illegible] ft.
Skelly Oil Co.'s No. 1 J. H. Tippett, Runnels County School Land A-2,169, Sec. 108, Blk. 194, G. C. & S. F. R. R. ..... New location.

PRESIDIO COUNTY

Headlock & Miller's No. 1 Tootle Est., Sec. 123, Blk. 3, D. & P. Sur., elev. 2,912 ft. ..... Salt water 2,610 ft.; total depth 3,003 ft.; shut down for orders.
Humble O. & R. Co.'s No. 1 Hendricks-C, SE cor. Sec. 32, Blk. 26 ..... Rigging rotary.
Humble O. & R. Co.'s No. 1 J. R. Walton-B, SE cor. N half Sec. 47, Blk. 26 ..... Building derrick.
Humble O. & R. Co.'s No. 1 J. B. Walton-A, NW cor. Sec. 48, Blk. 26 ..... Building derrick.
Humble O. & R. Co.'s No. 2-A Sec. 34, Blk. B-5 ..... Top salt 1,340 ft.; top lime 2,[illegible] ft.; shut down 2,500 ft.
Humble O. & R. Co.'s No. 3 Grisham-Hunter, Sec. 34, Blk. B-5 ..... 5,000,000 ft. gas from 2,195 ft.; spraying 100 bbls. 2,896 ft.; killing well to deepen; total depth 2,898 ft.; shut down.
Humble O. & R. Co.'s No. 5 Grisham-Hunter, SW cor. NE Sec. 34, Blk. B-5 ..... Top lime 2,398 ft.; big gas 2,4[illegible] ft.; top salt 1,415 ft.; top pay 2,968 ft.; total depth 2,979 ft.; flowed 175 bbls. hr.
Pinto Canyon Oil Co.'s No. 1 Fields, 1,760 ft. S and E NW cor. Sec. 74, Blk. 2, D. & P. Sur. ..... Location.

REAGAN COUNTY

Hagan & Emch's No. 1 E. W. Loftin ..... Drlg. 500 ft.
Moody Oil Co.'s No. 1 R. A. Walters ..... Rig.
Roxana Pet. Co.'s No. 1 Sawyer Cattle Co., 3,000 ft. S of CNL Sec. 15, Blk. A, R. Casey Sur. ..... Moving in material.
Texon O. & L. Co.'s No. 1-B University, Group 1 ..... Top pay 6,250 ft.; 2,000 ft. oil; drlg. 7,480 ft.
White et al's No. 1 Shofner & Sterling, NE cor. NW Sec. 10, 2 m. N of Big Lake ..... Top salt 1,275 ft.; hole full fresh water 2,155 ft.; run. 8-in. 2,[illegible] ft.

REEVES COUNTY

Exploration Co.'s No. 1 A. A. Kinney, 1,500 ft. W of NE cor. Sec. 26, Blk. C-18, Public School Land, elev. 2,847 ft. ..... Show oil 1,105-10 ft.; drlg. 1,[illegible] ft.; hole full sulphur water 1,[illegible] ft.; setting 10-in. casing 1,600 ft.
Grisham-Hunter Corp.'s No. 1 Rathge & Connor, 600 ft. from N line and 5,760 ft. from W line of Sec. 26, Blk. 2, H. & G. N. ..... Drlg. 770 ft.
David R. Thompson's No. 1 A. A. Eddins ..... Total depth 5,130 ft.; shut down.
Vacuum Oil Co.'s No. 1 Grisham-Hunter ..... Set 15½-in. casing 533 ft.; drlg. 775 ft.
World Oil Co.'s No. 1 Biggs, C SE Sec. 85, Blk. 112, Public School Land Sur., elev. 3,068 ft. ..... Total depth 2,295 ft.
World Oil Co.'s No. 1 Duff, 1,500 ft. from S and 850 ft. from NE lines, R. S. Johnson Sur. No. 68, elev. 2,774 ft. ..... Top Delaware lime 4,185 ft.; hole full brackish salt water 4,[illegible] 4,500 ft.; plugged back to 4,[illegible] ft.; shot 70 qts. 4,135-4,285 ft.; little oil in hole; shut down 4,500 ft.; moved tools to No. 1 Biggs.

RUNNELS COUNTY

Empire G. & F. Co.'s No. 1 C. C. Gray ..... Hole full fresh water 2,250-57 ft.; shut down 2,448 ft.
Gibson & Johnson's No. 1 Harris Est., Juliana Voske Cabrera Sur. ..... Location.
Gibson & Johnson's No. 1 H. P. Serratt, C SE NW Sec. 150, E. T. R. R. Sur. ..... Drlg. 1,356.
Globe Oil Co.'s No. 1 J. H. Webb ..... Drlg. 1,135 ft.
Jones Oil Syndicate's No. 1 W. Hale ..... Underreaming 6-in. 1,710 ft.
Jones Oil Syndicate's No. 1 W. Hale (Runnells), NE cor. Sur. 29, Sec. 109, E. T. R. R. Co. sur. ..... New location.
McLean et al's No. 1 G. W. Clayton ..... Drlg. 930 ft.
Marland Oil Co.'s and E. L. Smith Oil Co.'s No. 1 A. C. Herring, C Sec. 121, E. T. R. R. Sur. (3,000-ft. test).. New location.
Marland Oil Co.'s No. 1 R. R. Russell, near CSL J. F. G. Sur. ..... New location.
Kennedy et al's No. 1 J. E. Tally ..... Cleaning out 1,720 ft.

May et al's No. 1 J. M. Schneider, John Wall Sur. — ½ bailer salt water 1,033 ft.; hole full water 1,100-20 ft.; shut down 1,320 ft.

Miles Oil Co.'s No. 1 Charles Ray, Sec. 21, T. & N. O. Sur. — Cellar and machine.

Miles Oil Co.'s No. 1 L. S. Lawhon, NE cor. Sec. 68 — Show gas 960-80 ft.; shut down for 6-in. 2,310 ft.

Royal Pet. Co.'s No. 1 A. C. Willingham — Preparing to run 10-in. 1,410 ft.

Sillix Pet. Co.'s No. 1 Malone — Location.

Swensondale Oil Co.'s No. 1 E. A. Werner — Hole full water 2,000 ft.; shut down 2,080 ft.

Vacuum Oil Co.'s No. 2 R. M. McMillan — Underreaming 8¼-in. casing 2,348 ft.

Watchorn O. & G. Co.'s No. 1 J. L. King — Hole full salt water 1,633-91 ft.; drlg. 2,427 ft.

SCHLEICHER COUNTY

Beavers & Leath et al's No. 1 J. A. and W. T. Whitten, C NW Sec. 35, Blk. 11, T. O. Sur. — Shut down 400 ft.

SCURRY COUNTY

J. B. Mims et al's No. 1 J. J. Koonsman, Sec. 220, Blk. 2, H. & T. C. Sur. — Rig.

STERLING COUNTY

Orr et al's (to be taken over by Empire G. & F. Co.) No. 1 Neal Reed, CNL Sec. 15, Blk. 30,. W. & N. W. Sur. — Shut down 1,390 ft. (cor.).

SUTTON COUNTY

National Potash Co.'s No. 1 J. N. Ross — Coring lime 988 ft.

TAYLOR COUNTY

A. J. Brown et al's No. 1 Henslee, NE cor. Sec. 5, Blk. 4, S. P. R. R. Survey — Drlg. 2,465 ft.

Dorning & Perrine's No. 1 J. A. Hammer, C N 100 acres, Sec. 23, Blk. 19, T. & P. Sur., elev. 1,904 ft. — Shut down 455 ft.

Gilbert Johnson and Day Bros.' No. 1 C. M. Brown, Sec. 1, Blk. 6, T. & P. Sur. — Drlg. 1,930 ft.

Owen & Sloan's No. 1 Lattimer, Sec. 14, Blk. 9, T. & P. Sur. — Shut down 2,825 ft.

TERRELL COUNTY

Big Bend Oil Co.'s No. 1 Bassett — Location.

Champlin Ref. Co.'s No. 1 Corder, C Sec. 110, Blk. 1, C. C. S. D. Sur. — Set 15½-in. at 625 ft.; drlg. 800 ft.

Reep Rock Oil Co.'s No. 1 H. C. Nolke, Sec. 4, Blk. A-2, T. C. R. R. Sur. — Drlg. 660 ft.

Humble Oil Co.'s No. 1 University, Sec. 15, Blk. 34 — Shut down for fish. tools 900 ft.

Milham Exploration Co.'s No. 1 Bassett, Sec. 77, Blk. Y, W. H. Robertson Sur. — Run. 8-in. 1,788 ft.; drlg. 2,108 ft.

Miller Bros.' No. 1 Allison & Burke, CNW Sec. 10, Blk. 176, Texas-Mex. R. R. Sur. — Building rig.

Woodley & Jones' No. 1 Pankenham, C SE NW Sec. 43, Blk. B-2, C. C. S. D. R. G. & N. G. R. R. Sur. — Location.

TERRY COUNTY

Kingsland O. & P. Co.'s No. 1 Brownfield, C NW SW SW Sec. 7, Blk. 1-A, E. L. R. R. Sur. — Slight show gas 2,230 ft. total depth 3,242 ft.; underreaming 6-in. casing at 3,186 ft.

TOM GREEN COUNTY

George Amery's No. 1 Wilkey, C SW Sec. 3, B. A. L. Sur. — Location.

Collins et al's No. 1 Jones, CSL Sec. 646, Shaffer Sur. — Rig.

Cox et al's No. 1 Llano — Total depth 470 ft.; shut down.

Fitzgerald & Taliaferro's No. 1 Bennett — Trying to shut off water 1,920 ft.

Lone Eagle Oil Co.'s No. 1 Sharp, SE W Elzel Sur No. 167 — Location.

Marland Oil Co.'s No. 1 J. W. Johnson, C SE Sec. 6, R. B. Sanderson Sur. — Hole full water 2,020-45 ft.; shut down 2,500 ft.

Marland O'l Co.'s No. 1 J. W. Johnson-A — Fishing 3,130 ft.

Tulsa Oil Co.'s No. 1 Adams, C SW Sec. 163, Blk. 11, S. P. R. R. Sur. — Shut down 1,020 ft.

Haubelt et al's No. 1 Johnson — Location.

Haubelt et al's No. 2 Johnson — Shut down 1,201 ft.

World Oil Co.'s No. 1 Mrs. F. T. March — Location.

World Oil Co.'s No. 2 Pulliam, Sec. 25, Blk. 4, H. & T. C. Sur., elev. 1,823 ft. — Fishing 530 ft.

UPTON COUNTY

Mark Curtis et al's (was Hultz et al's) No. 2 Giddings, 5,336 ft. S and 6,678 ft. E of NW cor. Throckmorton C. School Land, League 1, elev. 2,757 ft. — Shut down 975 ft.

Southern C. O. P. Co.'s No. 1 C. W. Hobbs — Flowed sulphur water 2,340-80 ft. Drlg. 3,190 ft.

The Texas Company and Cordova Union's No. 1 Union Land, Sec. 23, Blk. 35, H. & T. C — Top pay 2,098 ft.; swabbed 60 bbls. in 36 hrs. at 2,271 ft., 2 per cent water; 2,200 ft. sulphur water 2,390-2,405 ft.; shut down 3,125 ft.; to plug back.

Wise & Jackson's No. 1 J. H. Porter, SW cor. SW SW Sec. 184, Blk. E, elev. 2,592 ft. — Top pay 3,419 ft.; total depth 3,517 ft., gray lime; shut down.

VAL VERDE COUNTY

A. Blume et al's No. 1 Moore Est., Sec. 183, J. Mitchell Sur., elev. 953 ft. — Shut down 3,000 ft.

Curse-Williams' No. 1 Holman, NE NE Sec. 5, Blk. N, G. H. & S. A. Sur. — Shut down 2,940 ft.

East Del Rio Oil Co.'s No. 1 Russell, SE cor. Sec. 183, Del Rio Town Sur., elev. 941 ft. — Total depth 3,190 ft.; shut down.

Magnolia Pet. Co.'s No. 1 Whitehead, Sec. 81, D. G. C. & S. F. Sur., elev. 1,770 ft. — Shut down 5,890 ft.; (cor. depth).

Independent Operator's No. 1 Whitehead, SE SE Sec. 30, Blk. 4, I. & G. N. Sur., elev. 1,175 ft. — Shut down 3,900 ft.

O. O. Owens' No. 1 Mills, Sec. 128, Blk. 1, I. & G. N. Sur., elev. 2,130 ft. — Gas sand 2,491-2,520 ft.; tested 125,750 ft. gas; reset 8-in. 2,511 ft.; shut down 4,210 ft.

W. B. Thraves et al's No. 1 W. E. Wilson — Shut down 905 ft.

WARD COUNTY

Selby Oil Co. et al's No. 1 A. G. Dooley et al, Sec. 85, Blk. A. G. M. M. & A. Sur. — Shut down 500 ft.

WINKLER COUNTY

Amerada Pet. Corp.'s No. 1 J. B. Walton, SW cor. NW Sec. 48, Blk. 26, elev. 2,833 ft. — Rerun 8-in.; water shut off; making 15,000,000 ft. gas and slight spray oil; total depth 2,820 ft.; trying to clean out hole caving.

Atlantic O. P. Co.'s No. 1 Ida Hendricks-B, SE cor. W half NE Sec. 44, Blk. 26 — Show gas 2,770 ft.; top pay 2,820 ft.; top salt 1,910 ft.; top lime 2,732 ft.; total depth 2,936 ft.; 379 bbls.

Atlantic O. P. Co.'s No. 2 Grisham-Hunter-A, Sec. 34, Blk. B-5 — Shot 480 qts. 2,850-2,999 ft.; to shoot again; cleaning out.

Atlantic O. P. Co.'s No. 3 Grisham-Hunter-A, Sec. 34, Blk. B-5 — Topped salt 1,315 ft.; top lime 2,525 ft.; drlg. 2,735 ft.

Atlantic O. P. Co.'s No. 4 Grisham-Hunter-A, Sec. 34, Blk. B-5 — Top salt 1,470 ft.; top lime 2,472 ft.; drlg. 2,857 ft.

Atlantic O. P. Co.'s No. 5 Grisham-Hunter-"A", SW NE SW Sec. 34, Blk. B-5 — Location.

Atlantic O. P. Co.'s No. 5 Grisham-Hunter, NW cor. SE SW Sec. 34, Blk. B-5 — Building derrick.

Atlantic O. P. Co.'s No. 3 Grisham-Hunter-E, NW cor. N half NE Sec. 41, Blk. B-5 — New location.

Atlantic O. P. Co.'s No. 6 Grisham-Hunter, NW SE SW Sec. 34, Blk. B-5 — Rigging.

Atlantic O. P. Co.'s No. 2 Grisham-Hunter-E, NW cor. Sec. 41, Blk. B-5 — New location.

Atlantic O. P. Co.'s No. 3 Grisham-Hunter-"E", CNL N half NE Sec. 41, Blk. B-5 — Location.

Atlantic O. P. Co.'s No. 4 Grisham-Hunter-E, SE NE NE Sec. 41, Blk. B-5 — New location.

Atlantic O. P. Co.'s and Collett's No. 3 Hendricks-F, NW NE NW Sec. 40, Blk. 26 — Rigging.

Atlantic O. P. Co.'s No. 1 Grisham-Hunter-C (was Lemar) SW cor. Sec. 40, Blk. B-5 — Total depth 2,978 ft.; gas pressure split connections; est. 75,000,000 ft. gas; running wild; trying to kill gas; top salt 1,573 ft.; top lime 2,200 ft.

Atlantic O. P. Co.'s No. 3 Ida Hendrick-"D", NE SW NW Sec. 29, Blk. B-5 — New location.

Atlantic O. P. and Collett's No. 1 Ida Hendricks-F, NE cor. W half NW Sec. 40, Blk. 26 — Show gas 2,522 ft.; set 6-in. casing 2,685 ft.; total depth 2,685 ft.;1-5 bbls. head and 5,000,000 ft. gas; drlg. 2,695 ft.

Atlantic O. P. and Collett's No. 2 Ida Hendricks-F — Drlg. 1,057 ft.

V. T. Bolin et al's No. 1 Brown — Rigged up and shut down.

Cranfill Bros. and California Co.'s No. 1 M. J. Bashara, at cor. Secs. 10, 11, 22 and 23, School Blk. 77 — Total depth 3,503 ft. (s.l.m.); shut down for orders; top salt 1,160 ft.

Cranfill & Reynolds' No. 2 Hendricks-C, SW SE SW Sec. 33, Blk. 76 — Rigging.

Cranfill & Reynolds' No. 1 Hendricks-C — Cem. 8-in. 2,408 ft.; top lime 2,408 ft.; top salt 1,751 ft.; drlg. 2,670 ft.; 12,000,000 ft. gas; show oil.

Eastland Oil Co. and Arnold's No. 1, Sec. 35, Blk. B-5 — Show oil 2,675 ft.; top pay 2,710 ft.; drlg. by tools 2,755 ft.; flowing 60 bbls.

Gibson-Johnson's No. 1 Leck, C SW Sec. 3, Blk. 74 — Set 20-in. casing at 40 ft.

Gulf Prod. Co.'s No. 2T. G. Hendricks, NE NW NW Sec. 34, Blk. B-5 — Rig standing.

Gulf Prod. Co.'s No. 8 T. G. Hendricks, Sec. 34, Blk. B-5 — Show oil and gas in lime 2,483 ft.; top lime 2,480 ft.; drlg. 2,483 ft.

Gulf Prod. Co.'s No. 9 T. G. Hendricks, Sec. 34, Blk. B-5 — Top salt 1,837 ft.; drlg. 2,552 ft.

Gulf Prod. Co.'s No. 10 T. G. Hendricks, SW cor. NE Sec. 45, Blk. 26 — Top salt 1,973 ft.; total depth 2,315 ft.; mixing to kill gas.

Gulf Prod. Co.'s No. 11 T. G. Hendricks, Sec. 34, Blk. B-5 — Drlg. 364 ft.

Gulf Prod. Co.'s No. 12 T. G. Hendricks, Sec. 34, Blk. B-5 — Shut down 200 ft.

Gulf Prod. Co.'s No. 13 T. G. Hendricks, Sec. 40, Blk. B-5 — Drlg. 535 ft.

Humble O. & R. Co.'s No. 6 Grisham-Hunter — Drlg. 830 ft.

Humble O. & R. Co.'s No. 7 Grisham-Hunter — Shut down 840 ft.

Humble O. & R. Co.'s No. 8 Grisham-Hunter — Drlg. 860 ft.

Humble O. & R. Co.'s No. 9 Grisham-Hunter, NE NE Sec. 34, Blk. B-5 — New location.

Humble O. & R. Co.'s No. 10, Grisham-Hunter, NE SW NW Sec. 41, Blk. B-5 — New location; rigging.

Humble O. & G. Co.'s No. 2 Ida Hendricks-B, Sec. 29 — Top lime 2,594 ft.; top salt 3,010 ft.; flowed 1,007 bbls. in 16 hrs.; top pay 2,985 ft.; total depth 3,010 ft.

Humble O. & R. Co.'s No. 4 Ida Hendricks-B, SE N half SE Sec. 29, Blk. B-5 — Derrick.

Humble O. & R. Co.'s No. 5 Ida Hendricks-"B", NW NE SE Sec. 29, Blk. B-5 — Location.

Humble O. & R. Co.'s No. 6 Ida Hendrick-"B", NE NW SE Sec. 29, Blk. B-5 — Location.

Independent O. & G. Co.'s No. 3 Grisham-Hunter, Sec. 34 — Building rig.

Independent O. & G. Co.'s No. 4 Grisham-Hunter — Rig.

Independent O. & G. Co.'s No. 5 Grisham-Hunter — Top salt 1,541 ft.; drlg. 2,640 ft.

Independent O. & G. Co.'s No. 6 Grisham-Hunter — Drlg. 2,748 ft.

Independent O. & G. Co.'s No. 7 Grisham-Hunter — Gas 2,597 ft.; top pay 2,890 ft.; total depth 2,927 ft.; initial prod. 1,200 bbls. per day.

Independent O. & G. Co.'s No. 8 Grisham-Hunter — 8-in. casing 2,597 ft.; top lime 2,591 ft.; total depth 2,597 ft.

Independent O. & G. Co.'s No. 1 Vardeman-B, SE cor. E. half NW Sec. 41, Blk. B-5 — Top salt 1,775 ft.; top pay 2,575 ft.; total depth 2,743 ft.; 8,931 bbls. in 24 hrs.; pinched.

Independent O. & G. Co.'s No. 2 Vardeman-B — Top salt 1,800 ft.; drlg. 2,492 ft. Shut down 664 ft.

Independent O. & G. Co.'s No. 3 Vardeman-B — 8-in. casing 2,328 ft.

Independent O. & G. Co.'s No. 4 Vardeman-B — Shut down 664 ft.

Independent O. & G. Co.'s No. 5 Vardeman-B, NW SE NW Sec. 41, Blk. B-5 — New location.

Independent O. & G. Co.'s No. 1 E. W. Cowden — Rigging up.

Liner Drlg. Co.'s No. 1 Seth-Campbell, NE cor. Sec. 2, Blk B-5 — Shut down 450 ft.

Landreth Prod. Corp.'s No. 1 Hendricks-A, SE cor. SW Sec. 29, Blk. B-5 — Top salt 1,395 ft.; top lime 2,661 ft.; drlg. 2,970 ft.

Landreth and Roxana's No. 2 Ida Hendricks-A, Sec. 29, Blk. B-5 — Total depth 2,947 ft.

Landreth and Roxana's No. 3 Ida Hendricks-A, Sec. 29, Blk. B-5 — Top salt 1,470 ft.; top lime 2,623 ft.; drlg. 2,947 ft.

Marland Oil Co.'s No. 1 T. G. Hendricks, SE cor. W half Sec.- 33, Blk. 26 — New location.

Marland Oil Co.'s No. 2 T. G. Hendricks, NE SE SE Sec. 33, Blk. 26 — New location.

Marland Oil Co.'s No. 3 T. G. Hendricks, NE SE SW Sec. 33, Blk. 26 — New location.

Magnolia Pet. Co.'s (was G. M. Church et al's) No. 2 Ida Hendricks — Show oil 2,750 ft.; top pay 2,865 ft.; total depth 2,961 ft.; ran 5-in. with packer to 2,955 ft.; failed to shut off water; plugging back.

Magnolia Pet. Co.'s No. 3 Ida Hendricks — Total depth 2,763 ft.; top lime 2,423 ft.; flowing 275 bbls.

Magnolia Pet. Co.'s No. 5 Ida Hendricks — Top salt 1,624 ft.; top lime 2,509 ft.; total depth 2,908 ft.; initial production 151 b bls., 90 per cent water, 2 per cent b.s.

Magnolia Pet. Co.'s No. 6 Ida Hendricks, Sec. 29, Blk. B-5 — Top salt 1,430 ft.; top lime 2,420 ft.; drlg. 2,595 ft.

Magnolia Pet. Co.'s No. 7 Ida Hendricks — Drlg. 2,175 ft.

Magnolia Pet. Co.'s No. 8 Ida Hendricks — Location.

Murchison Oil Co. et al's No. 1 Grisham-Hunter-B, NE cor. SW SW Sec. 35, Blk. B-5 — Top salt 1,335 ft.; shut down 2,427 ft.

Murchison Oil Co. et al's No. 2 Grisham-Hunter-B — Location.

Murchison Oil Co. et al's (was Marland Oil Co.'s) No. 4 Grisham-Hunter-B — Drlg. 2,868 ft.

Mining & Engineering Co.'s No. 1 T. G. Hendricks, Sec. 10, Blk. B-12 — Drlg. 195 ft.

Murchison Oil Co. and Cranfill Bros.' No. 2 Grisham-Hunter-A — Location.

Murchison Oil Co. and Cranfill Bros.' No. 4 Grisham-Hunter — Location.

The Texas Company's No. 4 Hendricks — Drlg. 190 ft.

The Texas Company's No. 5 Hendricks — Drlg. 717 ft.

The Texas Company's (was Pure Oil Co.'s) No. 1 Hendricks-B, NE cor. SE Sec. 34, Blk. B-5 — Show gas 2,350-60 ft.; show oil 2,330 ft.; 15,000,000 ft. gas at 2,490 ft.; more gas 2,564 ft.; 40,000,000 ft. gas at 2,720 ft.; rigging cable tools 2,731 ft.

The Texas Company's (was Pure Oil Co.'s) No. 2 Hendricks-B — Top lime 2,387 ft.; top pay 2,805 ft.; flowing small heads; shut down for orders 2,866 ft.

The Texas Company's (was Pure Oil Co.'s) No. 3 Hendricks-B — Cem. 8-in. 2,438 ft.; 6,000,000 ft. gas 2,600 ft.; shut down for orders 2,860 ft.

The Texas Company's (was Pure Oil Co.'s) No. 4 Hendricks-B — Shut down 2,405 ft.

The Texas Company's No. 5 Hendricks-B, SE SW SE Sec. 34, Blk. B-5 — 8-in. casing 2,422 ft.; total depth 2,431 ft.; top lime 2,420 ft.

The Texas Company's (was Pure Oil Co.'s) No. 6 Hendricks-B — Top salt 1,315 ft.; top lime 2,388 ft.; shut down 2,390 ft.

The Texas Company's No. 1 Grisham-Hunter-C — Shut down 1,181 ft.

Republic Prod. Co.'s No. 1-A Grisham-Hunter-B, SW cor. E half SE Sec. 41, Blk. B-5 — Top salt 1,240 ft.; top lime 2,135 ft.; shut down 2,299 ft.

Republic Prod. Co.'s No. 2 Grisham-Hunter-B — Top salt 1,280 ft.; top lime 2,197 ft.; total depth 2,980 ft.; preparing to test.

Republic Prod. Co.'s No. 3 Grisham-Hunter-B, NE cor. SE Sec. 41, Blk. B-5 — Drlg. 2,300 ft.

Republic Prod. Co.'s No. 2 Hendricks-A, NE E half SW Sec. 45, Blk. 26 — Drlg. 2,100 ft.

Roxana Pet. Corp.'s No. 1 Grisham-Hunter-A, SW cor. E half NW Sec. 45, School Blk. 26 ..... Top lime 2,428 ft.; total depth 2,828 ft.; flowed aver. 1,500 bbls. past week, pinched.

Roxana Pet. Corp.'s No. 2 Grisham-Hunter-A, SE cor. E half NW Sec. 45, Blk. 26 ..... Drlg. 2,563 ft.

Roxana Pet. Corp.'s No. 2 Grisham-Hunter-B ..... Top lime 2,630 ft.; total depth 2,970 ft.; reducing hole.

Roxana Pet. Corp.'s No. 3 Grisham-Hunter-B ..... Drlg. 2,682 ft.

Roxana Pet. Corp.'s No. 2 Grisham-Hunter-C, SE cor. N half NW Sec. 29, Blk. B-5 ..... Top salt 1,405 ft. showed oil 2,880-83 ft., 2,910-14 ft. and 2,919-36 ft.; top pay 2,948 ft.; total depth 2,989 ft.; flowed 320 bbls. per hr. open, 33 per cent water; pinched to 3,540 bbls., 3 per cent water; plugged back to 2,943 ft.; no production.

Roxana Pet. Corp.'s No. 4 Grisham-Hunter-C ..... Top salt 1,420 ft.; top lime 2,560 ft.; top pay 2,952 ft.; total depth 2,970 ft.; initial production 780 bbls. hr.

Roxana Pet. Corp.'s No. 5 Grisham-Hunter-C ..... Top lime 2,588 ft.; drlg. 2,885 ft.; flowing 484 bbls. by heads.

Roxana Pet. Corp.'s No. 2 Grisham-Hunter-D ..... Top salt 1,340 ft.; run. 8-in. 2,256 ft.; stand. cem.; top lime 2,265 ft.; drlg. 2,657 ft.

Roxana Pet. Corp.'s No. 3 Grisham-Hunter-D ..... Drlg. 917 ft.

Roxana Pet. Corp.'s No. 1 Grisham-Hunter-E ..... Shut down 600 ft.

Sheldon & Burden's No. 1 Ida Hendricks, SW cor. SE Sec. 28, Blk. B-5 (10-a. tract) ..... Top salt 1,260 ft.; top lime 2,-609 ft.; top pay 2,719 ft.; small increase 2,914 ft. and 2,973 ft.; drlg. 3,134 ft.

Southern C. O. P. Co.'s No. 2 Ida Hendricks T-88-B ..... Total depth 2,659 ft.; cem. 6-in. in lime; stand. cem.

Southern C. O. P. Co.'s No. 2 T-89 Grisham-Hunter-A, Sec. 35, Blk. B-5 ..... Standardizing 2,301 ft.; shut down.

Southern C. O. P. Co.'s No. 3 T-89-A Grisham-Hunter-A.. Shut down 2,352 ft.

Southern C. O. P. Co.'s No. 4 T-89 Grisham-Hunter-A .. Rig.

Southern C. O. P. Co.'s No. 4 T-89-A Grisham-Hunter-A.. Location; rotary moved away.

Texon O. & L. Co.'s No. 2 Grisham-Hunter-A ..... 5,000,000 ft. gas 2,260-2,500 ft.; 15,000,000 ft. gas 2,646-56 ft.; total depth 2,725 ft.; rig was wrecked when gas blew tools out of hole; est. 200,000,000 ft.; repairing rig; shut down 2,727 ft.

Texon O. & L. Co.'s No. 3 Grisham-Hunter-A, NW cor. W half SE Sec. 41, Blk. B-5 ..... Top salt 1,150 ft.; fishing bit 2,539 ft.

Texon O. & L. Co.'s No. 1 Grisham-Hunter-B, NW cor. W half SW Sec. 45, School Blk. 26 ..... 1½ bailers salt water hr. at 2,725 ft.; shut down 2,800 ft.

Texon O. & L. Co.'s No. 2 Grisham-Hunter-B, NE W half SW Sec. 45, Blk. 26 ..... Shut down for storage 2,815 ft.; top pay 2,810 ft.; aver 305 bbls.; drlg. 2,855 ft.

White Eagle O. & R. Co.'s (was Gibson & Johnson's) No. 1 P. A. Lock, 1,320 ft. W of NE cor. Sec. 30, Blk. 74, NW of discovery well, elev. 2,830 ft. ..... Total depth 3,260 ft.; shut down; pulled 5 3-16-in. casing to run 6⅝-in. casing by tools.

Southern C. O. P. Co.'s No. 1 Ida Hendricks, 3-T-67-A, C SW NW NE Sec. 4, Blk. B-12, elev. 2,784 ft. ..... Top lime 2,638 ft.; slight show oil 3,000-08 ft.; filled up 1,500 ft. sulphur water at 3,065-72 ft.; plugged back to 3,050 ft.; water now shut off; shut down waiting orders.

Southern C. O. P. Co.'s No. 2 T-67-A, NE SE Sec. 42, Blk B-5 ..... Location.

Southern C. O. P. Co.'s No. 2 Ida Hendricks 3-T-67-A ... Building rig 2,646 ft.

Southern C. O. P. Co.'s No. 1 Ida Hendrick, T-67-E, SE NE Sec. 42, Blk. B-5 ..... Location.

Southern C. O. P. Co.'s No. 2 T-67 Ida Hendricks-F ..... Top salt 1,715 ft.; cem. 6-in. 2,207 ft.; drlg. by tools 2,250 ft.

Southern C. O. P. Co.'s No. 3 T-67 Ida Hendricks-F ..... Top salt 1,702 ft.; top lime 2,688 ft.; drlg. 2,820 ft.

Southern C. O. P. Co.'s No. 4 T-67 Ida Hendricks-F ..... Top salt 1,800 ft.; top lime 2,700 ft.; shut down 2,701 ft.

Southern C. O. P. Co.'s No. 5 T-67 Ida Hendricks-C ..... Cem. 6-in. 2,643 ft.; shut down.

Southern C. O. P. Co.'s No. 2 T-67 Hendricks-B ..... Top salt 1,866 ft.; drlg. 2,468 ft.

Southern C. O. P. Co.'s No. 1 T-67 Hendricks-3-B ..... Drlg. 1,699 ft.

Southern C. O. P. Co.'s No. 2 T. G. Hendricks, T-67-3B, NE SW SW Sec. 33, Blk. 26 ..... New location.

Southern C. O. P. Co.'s No. 2 Hendricks 3-T-68-A ..... Top lime 2,280 ft.; shut down 2,790 ft.; 50,000,000 ft. gas; tools out.

Southern C. O. P. Co.'s No. 3 Hendricks 3-T-68-A ..... First gas 2,400 ft.; 8,000,000 ft. gas 2,420 ft.; total depth 2,420 ft.; temp. aban.

Southern C. O. P. Co.'s No. 1 T-88 Ida Hendricks-C, NW cor. Sec. 28, Blk. B-5 ..... 6,000,000 ft. gas 2,665 ft.; total depth 2,880 ft.; drlg. by tools.

Southern C. O. P. Co.'s No. 4 Ida Hendricks, T-88-C ..... Top salt 1,290 ft.; top lime 2,535 ft.; fishing 2,865 ft.

Southern C. O. P. Co.'s No. 5 Ida Hendricks, T-88-C .... Gas at 2,605 ft.; show oil 2,735 ft.; drlg. 2,770 ft.; show oil 2,845 ft.; top salt 1,190 ft.; top lime 2,457 ft.; drlg. 2,938 ft.; 8,000,000 ft. gas.

Southern C. O. P. Co.'s No. 7 Ida Hendricks, T-88-C .... Show gas 2,600 ft.; top pay 2,815 ft.; drlg. 2,985 ft.; spraying oil; total depth 3,051 ft.; initial prod. 350 bbls. in 15 hrs.

Turman & Maxwell's No. 2 Ida Hendricks ..... 10,000,000 ft. gas 2,865 ft.; total depth 2,915 ft.; aver. 823 bbls. past week; shut down 2,945 ft.

Turman & Maxwell's No. 4 Ida Hendricks ..... Drlg. 2,700 ft.

Turman & Maxwell's No. 5 Hendricks, SE cor. E half NE Sec. 29, Blk. B-5 ..... Drlg. 2,565 ft.

Turman & Maxwell's No. 6 Hendricks, NW cor. E half NE Sec. 29, Blk. B-5 ..... Drlg. 2,488 ft.; top salt 1,217 ft.

Turman & Maxwell's No. 7 Hendricks ..... Top pay 2,720 ft.; drlg. 2,794 ft.; flowed 500 bbls.

Turman & Maxwell's No. 8 Hendricks ..... Top salt 1,260 ft.; cem. 6-in. 2,355 ft. and shut down.

Southern C. O. P. Co.'s No. 1 Ida Hendricks, T-88-G, SW SE Sec. 28, Blk. B-5 ..... Top lime 2,612 ft.; rigging up; standard tools 2,613 ft.

Southern C. O. P. Co.'s No. 1 T-88 Hendricks-H ..... Top salt 1,290 ft.; top lime 2,693 ft.; shut down 2,717 ft.

Southern C. O. P. Co.'s No. 2 T-88 Hendricks-H ..... Top salt 1,232 ft.; total depth 2,700 ft.

Southern C. O. P. Co.'s No. 2 T-88 Hendricks-A ..... Drlg. 2,068 ft.

Southern C. O. P. Co.'s No. 1 Ida Hendricks, T-88-I, SE cor. E half NE Sec. 30, Blk. B-5 ..... Top lime 2,670 ft.; top salt 1,816 ft.; drlg. 2,875 ft.

Southern C. O. P. Co.'s No. 1 E. G. Hutchings, T-90, NE cor. E half SE Sec. 47, Blk. 26, elev. 2,835 ft. ..... Top salt 935 ft.; top lime 2,340 ft.; drlg. 2,442 ft.

Llano Oil Co.'s No. 1 F. B. Armstrong, at common cor. Secs. 12, 13, 18 and 19, Blk. B-6, School Land ..... Location.

Roxana Pet. Corp. and Llano Oil Co.'s No. 2 W. F. Scarborough, SW cor. NE Sec. 1, Blk. C-23, School Land ..... Drlg. 550 ft.; top sand 1,130 ft.; shut down 1,475 ft.

WILDCAT OPERATIONS IN PANHANDLE

(Continued from Page 37)

Empire G. & F. Co.'s No. 1 Bender, SE cor. Sec. 164, Blk. 3, I. & G. N. Sur. ..... Drlg., 2,250 ft.

Esiick et al's No. 1 Mrs. J. A. Hopkins, NW cor. W 80 acres of SW ¼, Sur. 84, H. & T. C., Blk. B-2 ... Spudded.

Gibson Oil Corp.'s No. 3 J. B. Bowers, 1,650 ft. from E line and 990 feet from S line, E half, Sec. 92, Blk. B-2 ..... Drlg., 1,770 ft.

Gibson Oil Corp.'s No. 9 J. B. Bowers, NE cor. Sec. 92, Blk. B-2, H. & G. W. Sur. ..... Spudded.

Gulf's No. 2 Bowers, 990 ft. from S line and 330 ft. from W line of W half, Sec. 89, Blk. B-2, H. & G. N. Sur. ..... G.W., 3,128 ft., flowing 30 bbls. daily; run. 5-in. csg., 3,134 ft.

Gulf Prod. Co.'s No. 4 J. B. Bowers, SE SW SW, Gulf lease in Sec. 89, Blk. B-2 ..... Drlg. red rock, 580 ft.

Gulf Prod. Co.'s No. 5 J. B. Bowers, SW SE SW, Gulf lease in Sec. 89, Blk. B-2 ..... Set 15½-in., 528 ft; drlg. salt, 1,080 ft.

Gulf's No. 2 Holmes, SE cor. NE, Sect. 107, Blk. 3, I. & G. N. Sur. ..... Drlg. lime, 2880 ft., 25,000,000 ft. gas, 2,870-80 ft; fish. for bit, 2,893 ft.

Gulf Prod. Co.'s No. 1 M. Davidson-A, 330 ft. from S. and E lines of NW cor. E half NW, Sec. 87, Blk. B-2, H. & G. N. Sur. ..... Drlg. salt and gyp, 1,600 ft.

Gurnsey Oil Co.'s No. 1 B. E. McKinney, 1,980 ft. E and 800 ft. N. of SW cor. Sec. 163, Blk. 3, I. & G. N. Sur. ..... 15,000,000 ft. gas, 2,036-3,110 ft; show oil, 3,270 ft; making baller wtr. per hr. at 2,350 P.B. to shoot. Shot with 4 qts., 3,160-3,278 ft; C.O; now 12 bbls. daily.

Gurnsey Oil Co.'s No. 2 B. E. McKinney, Sec. 163, Blk. 3, I. & G. N. Sur. ..... Show oil, 3,025-30 ft; S.D., 3,094 ft.

Hardendorf Drlg. Co.'s No. 1 G. A. Henderson, NE E half NE, Sec. 47, Blk. 25, H. & G. N. Sur. ..... Spudded.

McAuley et al's No. 1 Morse, SE cor. N half, Sec. 3, Blk. 26, H. & G. N. Sur. ..... Spudded.

Majestic Oil Co.'s No. 4 J. B. Bowers, SW cor. E half, Sec. 92, Blk B-2 ..... Rig.

Magnolia Pet. Co.'s No. 1 J. Bowers ..... 6-in., 2,800 ft; drlg. dry G.W., 1,630 ft.

Magnolia Pet. Co.'s No. 1 J. J. Wall, NE cor. Sec. 162, Blk. 3, I. & G. N. Sur. ..... Drlg., 2,855 ft; flowing 240 bbls. at 2,853-55 ft.

McMan Oil & Gas Co.'s No. 1 Osborne, NE cor. W half SE, Sec. 86, Blk. 3, I. & G. N. Sur. ..... Rigging up.

Midwest Explin. Co.'s No. 1 L. Holmes, Sec. 86, Blk. 3, I. & G. N. Sur. ..... Drlg., 3,015 ft; 15,000,000 ft. gas, 2,830-40 ft.

Neudigate et al's No. 1 A. Chapman, NE cor. E ½, SE, Sec. 52, Blk. 25 ..... 500,000 ft. gas, 2,760-65 ft; rainbow of oil, 2,820-25 ft; salt wtr. G.W., 2,827-28 ft; set 6-in 2,810 ft; rainbow show; S.D., 2,900 ft.

Operators Oil Co.'s No. 2 W. Jackson, NW cor. N ½ NE, Sec. 88, Blk. B-2 ..... Drlg., 690 ft.

Phillips Pet. Co.'s No. 1 J. B. Bowers, NW cor. E half, NE, Sec. 47, Blk. B-25, H. & G. N. Sur. ..... Cellar.

Phillips Pet. Co.'s No. 1 Davidson (Myson) ..... U.R. 10-in., 2,105 ft.

Phillips Pet. Co.'s No. 2 Davidson (Myson), NE cor. NW NW, Sec. 87, Blk. B-2, H. & G. N. Sur. ..... Rig.

Phillips Pet. Co.'s No. 1 W. Jackson (was Clark et al's No. 2) ..... S.O., 2,890 ft; swb. 240 bbls. daily, 2,905-39 ft; drlg., 3,018 ft; show wtr.

Phillips Pet. Co.'s No. 2 W. Jackson (was Clark et al's No. 3) ..... T.D., 2,994 ft; swabbing, 60 bbls. daily; to D.D; off prods.

Phillips Pet. Co.'s No. 3 W. Jackson ..... Show gas, 2,572-2,600 ft; S.D., 2,873 ft.

Phillips Pet. Co.'s No. 1 Jackson-Riley (was Clark et al's No. 1 W. Jackson) ..... 7,000,000 ft. gas, 2,442-2,545 ft; swbd. 160 bbls., 2,981 ft; drlg. deeper, 3,010 ft.

Phillips Pet. Co.'s No. 2 Jackson-Riley ..... Fish., 2,705 ft.

Phillips Pet. Co.'s No. 3 Jackson Riley, Sec. 88, Blk. B-2 H. & G. N. Sur. ..... Recmntd. 12½-in., 1,027 ft; drlg. 1,800 ft.

Phillips Pet. Co.'s No. 4 Jackson-Riley, SE cor. W half SW, Sec. 88, Blk. B-2 ..... Rig.

Pampa Oil Co.'s No. 1 W. R. Campbell, Sec. 90, Blk. 3 . 700 ft. wtr., 3,430 ft; S.D., 3,437 ft.

Purple Sage Oil Co.'s No. 2 E. B. Johnson ..... Drlg., 1,980 ft.

Ray & Massie's No. 1 A. Chapman, NE NW SW, Sec. 51, Blk. 25 ..... Drlg., 2,100 ft.

Rensaul Pet. Co.'s No. 2 M. Huselby, NE cor. SW, Sec. 55, Blk. 25, H. & G. N. Sur. ..... Drlg., 500 ft.

Remo Oil Co.'s No. 1 B. E. McKinney ..... Rigged up and S.D.

St. Clair Oil Co.'s No. 1 C. H. Rowe ..... Spud. and S.D.

St. Clair Oil Co.'s No. 1 L. S. Stocklon, SE cor. Sec. 35, W. R. Lee Sur. ..... Spudded and S.D.

Shamrock Oil Co.'s No. 1 Chapman, NE E half SW, Sec. 50, Blk. 25 ..... 5,000,000 ft. gas, 2,660-70 ft.

Skelly Oil Co.'s No. 1 Bradford, NE cor. Sec. 118, Blk. B-2, H. & G. N. Sur. ..... Drlg., 2,765 ft.

Spartan Oil Co.'s No. 1 J. Hopkins ..... Rig.

Sullivan et al's No. 1 A. Chapman-A ..... Drlg., 2,160 ft.

Sun Oil Co.'s No. 1 Jackson ..... Top lime, 2,035 ft; drlg., 2,341 ft.

Staggers Oil Co.'s (was Ruby Oil Co.'s) No. 1 B. F. Tally ..... T.D., 635 ft; S.D.

The Texas Company's No. 2 J. B. Bowers ..... Show gas, 2,810 ft; show oil, 820 ft; fish., 3,015 ft; C.O.

The Texas Company's No. 3 J. B. Bowers ..... Drlg., 2,645 ft.

The Texas Company's No. 4 J. B. Bowers, SE cor. SE, Sec. 93, Blk. B-2 ..... Drlg., 1,315 ft.

The Texas Company's No. 2 H. M. Davis, SW cor. NW, Sec. 86, Blk. 3 ..... Set 8¼-in., 2,150 ft.

The Texas Co.'s No. 1 M. B. Davis, SE cor. NE, Sec. 8, Blk. 1, A. C. H. & B. ..... Location.

The Texas Company's No. 1 McLarty et al, SW cor. E ½ NW, Sec. 1, Blk. 1, A. C. H. & B. Sur. ..... Run 8¼-in., 1,463 ft.

The Texas Company's No. 1 S. McLarty ..... Drlg. shale, 1,615 ft.

The Texas Company's No. 1 W. H. Taylor, C NE, Sec. 19, Blk. B-2 (formerly Smallwood et al's) ..... Drlg., 500 ft.

The Texas Co.'s No. 1 C. Thut, C N half of E 320 A, Sec. 1, H. & G. N. Sur. ..... Drlg., 1,925 ft.

The Texas Co.'s No. 1 M. B. Davis, SE cor. NE, Sec. 8, Blk. 1, A. C. H. & B. Sur. ..... Location.

The Texas Co.'s No. 2-A Chapman, NE cor. NW NW, Sec. 51, Blk. 25, H. & G. N. Sur. ..... Cellar.

The Texas Co.'s No. 1 J. E. Williams, NW cor. NE NW, Sec. 7, Blk. 1, A. C. H. & B. Sur. ..... Location.

Viola Oil Corp.'s No. 1 G. H. Saunders ..... Rig.

HALE COUNTY

Bailey & Young's No. 1 Thomas, Sec. 1, Blk. J.K.L. .... S.D., 175 ft.

Donnell Pet. Co.'s No. 2 Mullican, NW cor. Sec. 66, Blk. A-3, I. & S. B. Sur. ..... Top pay in sandy shale, 400 ft; ½ baller oil and 3 bailers wtr. per day; S.D., 620 ft.

Donnell Pet. Co.'s No. 1 Mullican, C Sec. 21, Blk. B, R. M. Thompson Sur. ..... 200 ft. fluid in hole from 400 ft; S.D.

Explin. Co.'s No. 1 Crawford, C NE, Sec. 17, Blk. C-3, T. T. R. R. Sur. ..... Spudded and S.D.

Explin. Co.'s No. 1 Goodman ..... S.D., 350 ft.

A. S. Mimm's No. 1 W. A. Ritcher, 700 ft. from east line and 1,200 feet from south line, Sec. 17, Blk. X, John Glynn Sur. ..... S.D., 1,140 ft.

Tolbert & Simms' (was Gouldy & Stone's) No. 1 Kitteral, SE cor. NW, Sec. 65, Blk. A-3, G. C. & S. F. Sur. ..... S.D., 485 ft.

HALL COUNTY

Briscoe Oil Assn's (was Seifert et al's) No. 1 Owens, C NE, Sec. 179, Blk. S-5, Dennison & Pacific Sur. Spudded and S.D.

HANSFORD COUNTY

Caldwell et al's No. 1 J. Adriance est. ..... Drlg., 1,003 ft.

Oklavania et al's No. 1 Coots, Sec. 13, Blk. 46, H. & T. C. Sur. ..... Cmt. 10-in. csg., 990 ft.

HOCKLEY COUNTY

World Oil Co.'s No. 1 Ellwood ..... S.D., 1,455 ft. to install rotary

HARTLEY COUNTY

Deep Rock Oil Co.'s No. 1 Lymann & Balfour, Sec. 9 .. Preparing to abd., 4,038 ft.

HEMPHILL COUNTY

Hoover et al's No. 1 Schaller est., Sec. 4 ..... Spudded and S.D.

Hoover et al's No. 1 fee, J. S. Hood Sur. ..... Drlg. hard sandy lime; 300 ft. wtr. in hole; to S.D. a few days

HUTCHINSON COUNTY

R. G. Barnum et al's No. 1 Garland Sanford, Sec. 73, Blk. 46 ..... Rig.

Beam et al's No. 1 Cockrell, Sec. 3, Blk. 23 ..... S.D., 405 ft. for orders.
Big Coach Oil Co.'s No. 1 Dunnaway, Sec. 5, Blk. Y.... S.D., 750 ft.
Conklin et al's No. 1 Johnson, Sec. 1, Blk. X03, H. & O. B. Sur. ..... S.D., 600 ft.
Dixon Creek Oil Co.'s No. 1 Burnett est., NW cor. of E 240 A of N 320 A, Sec. 120, Blk. 5, I. & G. N. Sur. Run. 15-in., 450 ft.
Harris et al's No. 1 J. Q. Bost, Sec. 10, Blk. Y-2, T. T. R. R. Sur. ..... Drlg., 1,060 ft.
Holmes & Quinn's No. 1 J. K. Quinn, SW cor. Sec. 9, Blk. 3, B. S. & F. Sur. ..... Drlg., 380 ft.
McMan O. & G. Co.'s No. 1 Albert Yake, SW cor. SE. Sec. 2, Blk. J, H. & G. N. Sur. ..... Set 8¼-in. pipe, 2,107 ft. Show gas 2,220 ft; drlg., 2,745 ft; 10,000,000 ft. gas.
Phillips Pet. Co.'s No. 12 Elva-Whittenburg, E. Tomlinson Sur. ..... T.A., 4,445 ft.
Phillips Pet. Co.'s No. 1 Perkins-Hamilton, SW cor. of N 240 acres of S half, Sec. 22, Blk. 47, H. & T. C. Sur. ..... Location.
Skelly Oil Co.'s No. 2 Armstrong & Byrd ..... Drlg., 980 ft.
Skyrocket Oil Co.'s No. 1 Mrs. R. A. Jameson ..... 800 ft. oil in hole from 3,146 ft; drilled to 3,180 ft; shot with 60 qts., 3,125-60 ft; bridged; no increase in oil after deepening; to pump.
The Texas Co.'s No. 1 Cockrell-B, Sec. 3, Blk. B-3 ..... T.P., 3,015 ft; 500 ft. oil in hole; run liner, 3,040 ft; S.D., 3,121 ft.
Wendell et al's No. 1 Johnson Bros. ..... Drlg., 970 ft.

KING COUNTY

Humble O. & R. Co.'s No. 1 Pitchfork, Sec. 171, Blk. A-36, John H. Gibson Sur. ..... Hole full wtr., 3,375 ft; U.R. 8-in. csg., 3,435 ft; drlg., 3,610 ft.
J. L. Pattison's No. 1 Patton ..... Slight show gas, 2,115-30 ft; fish., 3,410 ft.

LAMB COUNTY

Dan Freel et al's No. 1 Ellwood, CWL Sec. 9, Blk. T, T. A. Thompson Sur. ..... Spudded and S.D.
Spade Oil Co.'s No. 1 Andrews, 1,085 ft. from N line and 200 ft. from E line, Labor 23, League 643, (5 miles NE of Littlefield) ..... Spud and S.D.
Tolbert & Simms' No. 1 Ellwood, NE SW SW, Sec. 14, Blk. B, R. M. Thompson Sur. ..... 712 ft; small show oil and hole full wtr.; dry, 1,504 ft; temp. abd.

LIPSCOMB COUNTY

Cal-Tex's No. 1 Bradford, C NE NE, Sec. 899, Blk. 43, H. & T. C. Sur. ..... Spudded and S.D.
Camp Creek Oil Co.'s No. 1 Mrs. H. D. May, Sec. 612, Blk. 43 ..... S.D., 2,000 ft.
McCorkle's No. 1 A. Barton, NE cor. SW SE, Sec. 504, Blk. 43, H. & T. C. Sur. ..... Wtr. in lime, 4,126-40 ft; 6-in. set, 4,155 ft; 5 3/16-in. csg. set, 4,420 ft; S.D., 4,705 ft.
Ozark Drlg. Co.'s No. 1 Frass, NE SE, Sec. 106, Blk. 10, H. & T. C. Sur. ..... Rig on ground.
Smith, Kinsley & Ruby's No. 1 C. W. Jones, NE cor. SW, Sec. 100, Blk. 43 ..... Show oil, 3,520 ft; S.W., 3,900 ft; U.R. 6-in. csg., 4,380 ft.

LUBBOCK COUNTY

Center Oil Co.'s No. 1 Bowles ranch ..... Small show oil, 1,133-40 ft., in sand; S.D., 2,730 ft.

MOORE COUNTY

Amarillo Oil Co.'s No. 1 Thompson-Amarillo, C, Sec. 23, Blk. 26, E. L. & R. R. Sur. ..... Set 24-in., 120 ft.
Prairie and Shamrock's No. 2 Gober, Sec. 16, Blk. M-21.. T.D., 2,520 ft; cmntd. 10-in csg., 2,636 ft.

MOTLEY COUNTY

Explin. Co.'s No. 1 Burleson ..... Spudded and S.D.
Explin. Co.'s No. 1 Tillson ..... S.D., 750 ft. for repairs
Explin. Co.'s No. 1 Matador Land & Cattle Co., C SW, Sec. 37, John Gibson Sur. ..... S.D., 1,002 ft.
Wheeler et al's No. 1 C. D. Bird, C NE, Sec. 4, Blk. S. Stephens Sur. ..... Spudded and S.D.

OLDHAM COUNTY

Prairie O. & G. Co.'s No. 1 Landegrin, SE cor. NE SW, Sec. 46, League 310, Capital land ..... 1,900 ft. wtr., 4,085-93 ft; 1 bailer wtr. per hr. and light scum oil, 4,527 ft. (steel line meas.) cmt. 6-in., 4,442 ft; 2,000 ft. S.W., 4,850-56 ft; T.D., 5,645 ft; plugging back to shoot.

OCHILTREE COUNTY

W. G. Burton's No. 1 Strickler ..... Fish. tools, 3,940 ft.
Hamilton et al's H. E. Wamble ..... S.D., 250 ft.
McCorkle P. L. Co.'s No. 1 R. H. Moore ..... S.D., 1,600 ft.
Montgomery's No. 1 Weinett ..... S.D., 850 ft.
Standard Development Co.'s No. 1 Bowen ..... S.D., 900 ft.

POTTER COUNTY

Amarillo Oil Co.'s No. 1 Masterson-K, C SW, Sec. 55, Blk. O-18, D. & P. R. R. Sur. ..... Drlg., 1,000 ft.
Amarillo Oil Co.'s No. 1 Fuqua, C NW, Sec. 18, Blk. 6, B. S. & F. Sur. ..... Rig.
Frank Allen et al's No. 1 W. H. Bush ..... S.D., 410 ft; corrected T.D.
Prairie O. & G. Co.'s No. 2 Lee Bivins, 660 ft. N. and 330 ft. W. of SE cor. Sec. 39, Blk. M-20, G & M. Sur. ..... Set. 10-in., 1,885 ft; drlg., 2,251 ft.

RANDALL COUNTY

Westbrook Oil Co.'s No. 1 J. Beckman, SW cor. SE NE, Sec. 46, Blk. B-5 ..... S.D., 2,720 ft.

ROBERTS COUNTY

Big Bend Oil Co.'s No. 1 Mrs. H. Ledrick & Sons, Sec. 7, Blk. 5-A ..... Show gas, 4,990 ft; show oil, 4,992 ft; csg. set, 4,992 ft; T.D., 5,153 ft; U.R. for 3-in; did not shut off wtr; to reset.

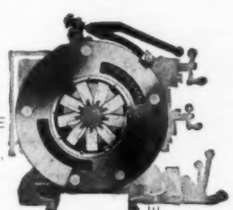
SHERMAN COUNTY

Gibson Oil Co.'s No. 1 Bivins, Sec. 35, Blk. 3-B..... 100,000 ft. gas, 2,016-26 ft; T.D., 3,353 ft; 2,000 ft. S.W., 3,325-38 ft; preparing to set 8-in. csg., 3,410 ft.
Phillips Pet. Co. and Prairie O. & G. Co.'s No. 1 Price & Fuqua, C NE, Sec. 33, Blk. 2-B, G. H. & H. Sur... 100,000 ft. gas, 2,105-10 ft; T.D., 3,420 ft; 2,000,000 ft. gas, 3,325-3,420 ft. lime; 400 ft. wtr. in hole from 3,535 ft; run 6-in. csg. to 3,535 ft; hole full of wtr., 3,680 ft; drlg., 3,810 ft.

WHEELER COUNTY

Byrens et al's No. 1 Johnson, SW cor. NE, Sec. 88, Blk. A-5, H. & G. N. Sur. ..... Set 10-in., 605 ft.
Rook et al's (was Foster et al's) No. 1 S. H. McDonald, SE cor. NW SW, J. N. Lindsay Sur. ..... S.D. for fuel, 1,900 ft.
Hatcher et al's No. 2 J. Hatcher, C NE SW, Sec. 80, Blk. 23, H. & G. N. Sur. ..... U.R. 8¼-in. csg., 1,460 ft.
Mid-Kansas O. & G. Co.'s No. 1 J. F. Coates, Sec. 93, Blk. 17, H. & G. N. Sur. ..... Drlg., 1,880 ft.
Mid-Kansas O. & G. Co.'s No. 1 J. L. Newton, Sec. 92, Blk. 17, H. & G. N. Sur. ..... Drlg., 1,550 ft.
Rook & Angus' No. 1 Smock (Linkey) C SE SE, Sec. 5, Blk. 24, H. & G. N. Sur. ..... U.R. 8¼-in., 1,980 ft.
Sabien Oil Co.'s No. 1 E. L. Woodley, C SE SE, Sec. 21, Blk. 24, H. & G. N. ..... Location.
Smith Brady et al's No. 1 P. J. Sorenson, Sec. 53, Blk. A-4 ..... S.D., 2,120 ft. for orders.
Sun Oil Co.'s No. 1, G. Krc. C NW NW, Sec. 127, Blk. 23 ..... Spudded.
The Texas Co.'s No. 2 Morgan, Sec. 92, Blk. 17..... 1,000,000 ft. gas, 1,835 ft; drlg., 2,228 ft.
Vaughan et al's No. 1 M. Ackley ..... Location.
Pete Woodley's No. 1 J. Boyle ..... Drlg., 810 ft.
H. Vaughan et al's No. 1 C. C. George, C SE NW, Sec. 96, Blk. 17, H. & G. N. Sur. ..... Location.
Vaughn et al's No. 1 B. Woodley, C SW NW, Sec. 21, Blk. 24, H. & G. N. Sur. ..... Location.
Vaughn et al's No. 1 A. Wood, C NW SW, Sec. 21, Blk. 24, H. & G. N. Sur. ..... Location.
Kaufold et al's No. 1 E. R. Wallace ..... Spudded and S.D.
Woodtex Oil Co.'s No. 2 C. A. Linkey ..... Drlg. G.W., 2,150 ft.

How's this for *low die cost* in pipe threading?



One of the big savings that you make when using the Williams "RAPIDUCTION" Pipe Threading Machine—*lower die cost*—is shown by many reports that we can send you—

For instance one well-known user (name on request) writes:

"Some months ago we put in a set of 2½-inch to 6-inch dies and since that time we have cut 400 2½-inch threads, 225 3-inch threads, 94 3½-inch; 59 4-inch; 1 4½-inch; 90 5-inch and 27 6-inch threads without once grinding the dies nor taking them from the machine."

Quite a record for a single set of dies that have not yet even been ground! And when they need new dies, the *lower first cost* will be another big saving.

Will be glad to send you reports from "RAPIDUCTION" owners, showing how these low die costs are maintained with as high as 40% increase in threading production. Write for Bulletin "O," giving full description of this high production threading machine.

You can easily see why the *first cost* of "RAPIDUCTION" dies is less:

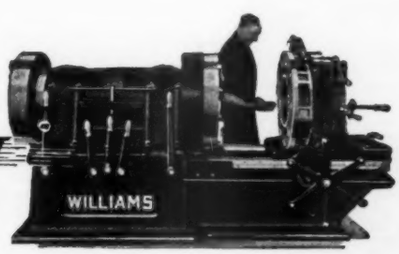
Small dies of high speed steel only are used— supported in large die-holders. Saving expensive tool steel.

For instance, a complete set of dies for the 12 inch "RAPIDUCTION" weighs only 8 lbs. as against 144 lbs. of dies for an ordinary machine this size.

The "RAPIDUCTION" dies are easy to handle. If you snip one die it takes only a few seconds to change to a new one (you don't have to change the whole set). Only one set of dies for every thread of the same pitch.

Williams Tool Corporation
Erie, Pa.

WILLIAMS
RAPIDUCTION
POWER PIPE MACHINE



Technical Questions Answered

BY CHARLES K. FRANCIS, PH.D., TECHNICAL EDITOR

This department of The Oil and Gas Journal is devoted to the manufacturing branches of the oil industry.

Those connected with the refining of crude petroleum, the manufacture of natural gasoline and closely allied industries are invited to submit their problems to Dr. C. K. Francis, technical editor. The department was created for the purpose of aiding managers, superintendents, engineers, chemists and all those engaged in the various phases of plant operation; also those connected with the marketing and utilization of petroleum products.

Questions should be submitted in as much detail as possible so as to assure a satisfactory answer.

All inquiries should be signed and if other than the given initials are to be used please indicate the desired letters.

Questions involving patented processes, intricate formulas and calculations and estimates of costs, for obvious reasons, cannot be answered. The replies will appear on this page within a reasonable time.

LUBRICATING VALUE OF CASTOR OIL

What is your opinion of the lubricating value of castor oil? Knowing that a volumetric determination of lubricating value may be made by an isolation of the colloidial hydrocarbons, the lubricating content of such petroleum hydrocarbon is much lower than was generally expected. This lubricating value can be increased by the addition of castor oil, and furthermore a stronger adsorption of the metal to the liquid is effected.—J. T. O.

The very high rating of castor oil as a lubricant is quite widely recognized. It is used for the lubrication of bearings especially of the heavy duty type, and is extensively used for lubricating the rotary airplane engines to which service it is especially adapted. The chief objection to the use of castor oil as a lubricant appears to be its tendency to form sticky and gummy substances through oxidation. When decomposition sets in acids are produced. These facts are the cause of some corrosion and the sticking of connecting rods, etc.

Castor oil has a Saybolt viscosity over 1,000 at 100 and above 90 at 210 degrees Fahrenheit. A sample tested as follows:

Gravity, 15.5 A.P.I.

Flash, closed cup, 485 Fahrenheit.

Flash, open cup, 505 Fahrenheit.

Saybolt viscosity at 100 Fahrenheit, 1,1485.

Saybolt viscosity at 210 Fahrenheit, 110.

Pour, 14 Fahrenheit.

This oil does not blend readily with mineral oil, but is freely soluble in rosin oil; it becomes soluble in mineral lubricating oils in the presence of rape seed oil, lard oil and tallow. When heated under pressure for several hours it becomes more soluble in the mineral oils.

There is one peculiar difficulty that may develop when castor oil is used to cool bearings, and its use is not recommended in a circulation system; that is the formation of deposits. After a bearing has become accustomed to castor oil it is not always easy to return to the original conditions. This appears to be due to the rapid loosening of the deposits which cause trouble. When a change is to be made from castor oil to a mineral oil there should be a gradual dilution of the castor oil with a good grade of lubricating oil.

AND CRACKED GASOLINE

Is a straightrun gasoline more volatile and therefore easier to start the motor; that is, a quicker pickup, than a cracked gasoline?—R. S.

This question can be answered only in a broad way. The source of the crude oil indicates composition which is reflected in the quality of the straight run gasoline. The quantity of light products found in one crude may be quite different in that found in another and general manufacturing conditions have a material bearing on the volatility of the gasoline produced. The character of the raw stock and type of cracking process are important factors which may modify the properties of the product. Cracked gasoline constitutes a large part of the present day motor fuels. So far as distilling range, or volatility, is concerned, the average cracked gasoline is probably superior to the average straight run gasoline.

The question of ease of starting the motor has been investigated by the United States Bureau of Standards. They report that, so far as starting the engine is concerned, aside from volatility, there is no appreciable difference between "cracked" and straightrun gasoline. The gasolines produced by various cracking processes frequently are superior to those obtained by straight distillation from crude petroleum, so far as knocking in an engine is concerned.

Experience indicated that the difference between motor spirit of equal volatility was probably too small to be readily detected by engine starting experiments. The important factor in engine starting is the time required to build up an explosive mixture in the cylinders. Thus, the leanest explosive mixture is to a certain extent a criterion of engine starting. This limiting mixture was determined by blowing known mixtures of air and superheated fuel vapor into a glass bomb and by varying the proportion of air to fuel until the flame would just propagate throughout the entire bomb when a spark was applied. Mixtures containing 25 parts of air and one part of fuel vapor were found to be the leanest explosive mixtures for both cracked and straightrun gasoline.

Practically the same results were found for benzol. These results indicate that, aside from volatility, there are no appreciable differences between the various kinds of motor fuels so far as engine starting is concerned. Recent tests show that a considerable difference in jacket water temperature has but slight effect on car acceleration, but warming the intake manifold does help the engine's ability to pick up speed very materially. A change in the jacket-water temperature from 212 degrees to 54 degrees Fahrenheit appeared to have little effect, but a change in intake manifold temperature from 160 degrees to 172 degrees Fahrenheit made a marked improvement in acceleration.

KNOCK RATING METHODS FOR MOTOR FUELS

What is the best method for determining the antiknock value of gasoline? Has the method which you may describe been endorsed by any reliable association or scientific society?—C. P. G.

While numerous experts have investigated the detonating property of gasoline, no method for rating motor fuels according to their tendency to knock has been standardized or accepted by any organization. This subject has constituted one of the important investigations of the Bureau of Standards. There was no effort made to decide which methods gave accurate or concordant results, but the study was made to show the present status of the number and kind of methods used. This investigation indicates a need for some standard method for measuring the knock rating of motor fuels and some means of correlating the data obtained by existing methods which are usually not independent of test conditions. Nearly all the methods studied consist of engine tests, or rely on engine tests for their interpretation, and most of them involve a standard of knock intensity. Knock intensity is commonly estimated by ear or by using a device known as the Midgley bouncing pin knock indicator. Optical indicators and other devices are also used. There is also the chemical method developed by Egloff and Morrell.

The progressive refiner has succeeded in manufacturing increasing quantities of gasoline which has a high nondetonating value in the high compression motor. There is a great interest among the refiners in the subject and they appreciate the need of a standard method so that results may be stated on some uniform and comparable basis.

Two valuable contributions to the subject were made at the recent meeting of the Society of Automotive Engineers by Dr. Graham Edgar of the Ethyl Gasoline Corp. and Neil MacCoull of The Texas Company. The papers summarized the results obtained in submitting samples of gasoline to several laboratories with equipment for determining the detonating properties of motor fuels. The reports showed that there was a wide variation in the results obtained by the several laboratories although both speakers are of the opinion that progress is being made in the trend toward stabilization.

Relative to the results of this survey Mr. MacCoull said:

"1. There is great need for further development of antiknock measurements.

"2. Certain elements of technique should be standardized at once, such as the mixture ratio and spark setting.

"3. Intensive study should be made of the fundamental methods in use for direct control of detonation in test engines such as compression ratio, manifold vacuum, etc.

"4. The measurement of antiknock values in terms of mixtures of a reference fuel with benzol or tetraethyl lead is apt to be very misleading if the peculiarities of such scales are not thoroughly understood.

"5. The data given in this survey indicate that there may be no great difference in results whether the detonation point is determined by audibility, maximum power, bouncing pin, etc.

"6. Eventually a reference fuel of low antiknock and one of high antiknock must be standardized but this can wait if need be until the methods and apparatus are standardized."

TETRAETHYL LEAD AND CARBON MONOXIDE POISONING

While working about my car, which was warming up in an enclosed shed, a sudden headache came on and my legs felt weak. I sat out in the air for a few minutes then got all right. I have had some ethyl gasoline in the car and want to ask if this could have been a slight poisoning due to this gasoline?—E. D. G.

While the symptoms you mention may indicate some tetraethyl lead poisoning, the more likely explanation is that you had a very narrow escape from death due to carbon monoxide in the exhaust gas. Carbon monoxide is odorless and tasteless. Usually the first symptoms are dizziness, headache, stomach pains, and muscular weakness. While a person may recognize these there is no escape from fatal results, unless help is at hand, because of the muscular weakness. It is reported that more than 500 persons are killed each year in the United States by this gas.

No remedy for carbon dioxide poisoning is known except fresh air. Motorists should never work in a closed garage with a motor running. Even in the open air, it is safer to stop the engine while working about the exhaust pipe.

The effects of tetraethyl lead poisoning do not disappear so soon. The symptoms of this form of poisoning have been described by Dr. Kehoe in the Journal of the American Medical Association, Vol. 85, page 108, 1925, as follows:

In cases of moderate cumulative poisoning the chief symptoms are: Insomnia, nausea and vomiting, which occur particularly in the early morning; headache and vertigo, and muscular weakness. The chief signs are a uniform pallor, low blood pressure, subnormal temperature, loss of weight, and a well defined coarse tremor. Colic is not a feature and the lead line on the gums is rare; the blood picture is inconstant, sometimes stippling of the red cells is seen and sometimes the blood is normal. In acute cases cerebral symptoms predominate; the patient is irritable, nervous, and excitable, and may even become maniacal. The signs, therefore, are quite different from those of ordinary lead poisoning.

Dr. Kehoe recommends the administration of large quantities of alkalis as treatment, 20 to 30 grams of a mixture of sodium bicarbonate and magnesia. He mentions that the use of narcotics for the insomnia is dangerous.

MINERAL SEAL ABSORPTION OF GASOLINE

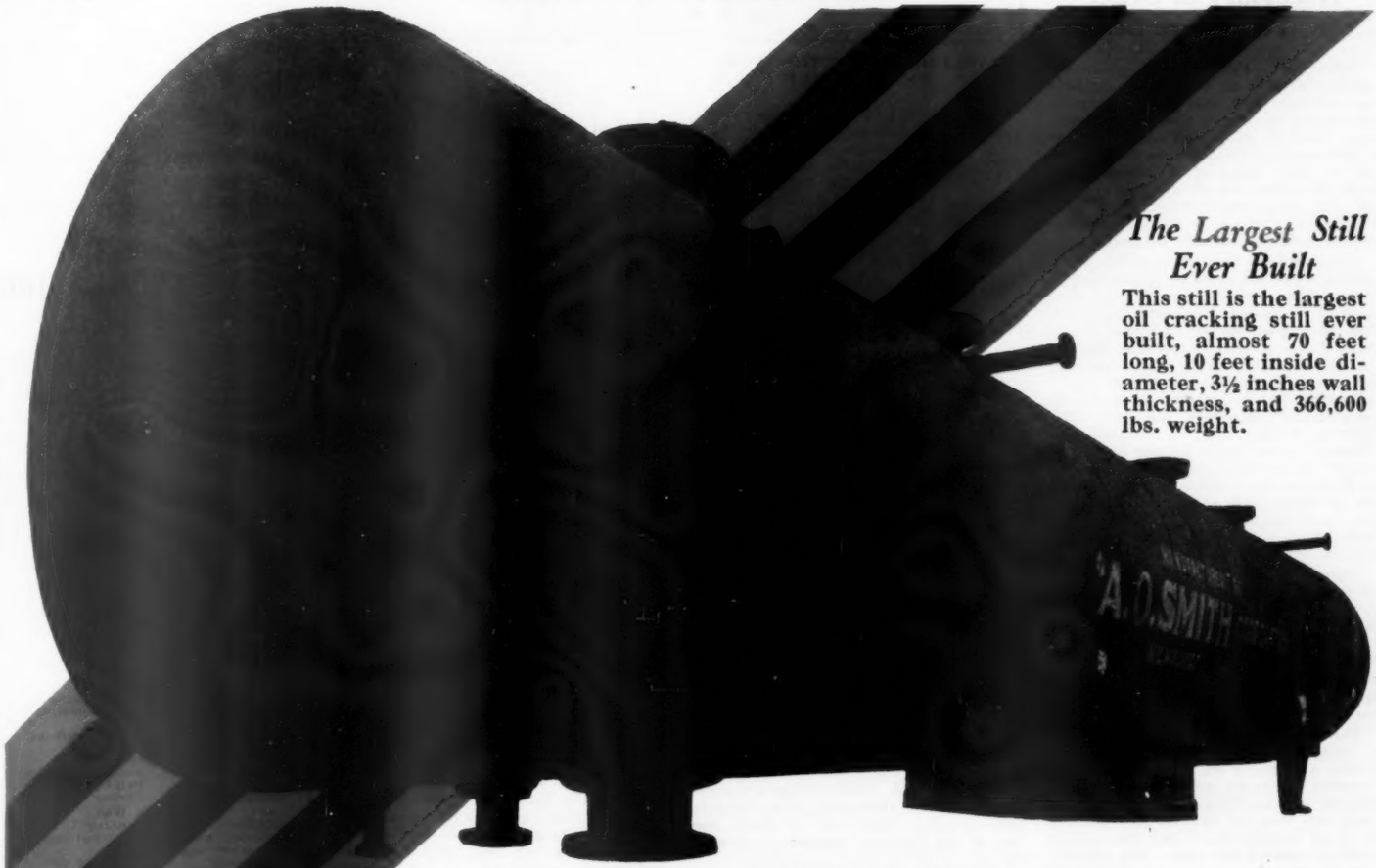
Does mineral seal oil absorb the lighter or the heavier portions of natural gasoline more readily, as does charcoal, or are all elements absorbed together throughout the contact period?—E. G. S.

The extraction of gasoline from natural gas by means of an absorbing oil, such as mineral seal, is controlled by the principle of what is known as Henry's law. One form of stating this law is: If the temperature remains constant, the quantity of liquid absorbed by a definite volume of the oil will be in direct proportion to the pressure. The higher the pressure the greater the concentration and the less oil required. When handling the same gas it is possible to obtain selection by changing the pressure. A similar result may be obtained by changing the temperature conditions. The higher the pressure and the lower the temperature the greater will be a quantity of the lighter portions absorbed. Cold oil absorbs more than a hot oil, so then it is a matter of having a proper volume of oil under definite conditions of temperature and pressure to secure a product which will have some predesired properties.

The success which has been made by the producers of natural gasoline in the manufacture of a stabilized product has resulted from the perfection of towers, still and condensing systems whereby quite definite control of these fundamental principles is possible. The control of temperature is probably the most important factor as affecting the proportion of light and heavy products which may be present in the final product. The advance which has been made in the application of insulating materials, together with the use of temperature control instruments, has been of material aid.

It may be true that under normal conditions an oil absorbing medium tends to the extraction of the heavier portions of natural gasoline.

SAFETY



The Largest Still Ever Built

This still is the largest oil cracking still ever built, almost 70 feet long, 10 feet inside diameter, 3½ inches wall thickness, and 366,600 lbs. weight.

1 Because Designed for uniform stress, and to meet specifically all the working conditions.

2 Because Made of steel, which must meet with our exacting specifications, analysis and inspection.

3 Because Built with 100% joint efficiency without excess metal.

4 Because Fabricated by Smithwelding, the patented Smith method of Electric Welding.

5 Because Unblemished record of safety to life and property.

A. O. SMITH CORPORATION
General Offices—Milwaukee, Wisconsin

Oil & Gas Field Products Division
District Offices at New York City, Pittsburgh, Tulsa, Houston, Los Angeles

SMITHSTEEL
CRACKING STILLS

Of Interest to Sales Departments

Sweet Distillates Necessary in Order To Assure Service

CHICAGO, Feb. 11.—A prominent manufacturer of oil burners for domestic use said last week, that they had greatly appreciated the efforts of the oil industry as a whole to refine and make available to the public a fuel that was suitable for use in these makes of oil burners. He made the point that all so-called gasoline was not satisfactory motor fuel and that all so-called furnace oil was not suitable for use with the domestic oil burner.

A considerable proportion of the distillates and gas oils supplied to distributors for their furnace oil trade has lacked in some of the essential qualities the requisites of a good burner oil. One of the chief causes of trouble has been the bad odor given off by the oil when consumed. There are few heating plants that are so tight that they do not give off inside the premises an odor from the fuel. The majority of people fail to recognize that the coal burner has a distinct odor. An expert on heating plants can tell before he looks into the furnace whether anthracite or bituminous coal is being burned. But most people are used to this coal odor and do not notice the smell until it becomes excessive.

There is some odor given off by any oil burner but with a good fuel the smell is not disagreeable and soon is not noticed. But the odor of sour distillate or gas oil is extremely objectionable. When the burner is most used, that is in cold weather, much less outside air is admitted to the home and the odor of furnace oil is especially offensive.

The furnace oil manufacturer pointed to one refinery which produces two grades of furnace oil which are similar to those ordinarily refined and sold as regards the qualities of gravity, color, flash and fire but are reliably uniform in these qualifications and are always carefully treated for odor. The refinery asks a price for these products that is substantially higher than the regular market price for oils of this gravity, flash and color but has no difficulty in selling its entire product to its regular customers.

Any furnace oil if not sweet, will be unsatisfactory no matter how desirable the product may be in all other respects, according to this maker of oil burners.

TRIMOTORED AIRPLANE FOR S. O. CALIFORNIA

A great trimotored airplane of the most modern type and design will shortly be flying on the Pacific Coast for the Standard Oil Co. of California. Lieut. Commr. George O. Noville of the Standard Oil Co., who was Commander Byrd's flight engineer of the North Pole expedition, and who flew with Byrd across the Atlantic, is in the East for the purpose of placing the company's order. It will be a three-motored passenger type with capacity for 8 or 10 occupants. It will be one of the finest airplanes ever built in the United States.

MAY INCREASE KANSAS TAX

A move has been started to increase the Kansas State gasoline tax from 2 cents, as at present, to 3 or 4 cents during the next meeting of the Legislature. R. O. McBurney, Kansas director of the Good Roads Association, has been named by Governor Paulen as a director of roads and has favored increasing the gasoline tax to supply additional funds, claiming this is the easiest and most logical way to do it.

Short Talks on Specifications

By W. T. Ziegenhain

VOLUME CORRECTION FOR TEMPERATURE

Ordinarily the salesman is not called upon to calculate the volume of oil in a car for this is done in the refinery general office but when outages occur or a question of volume correction comes up, the salesman should be in a position to know what factors are essential. Oils, like most other substances expand and contract in volume when heated or cooled. A temperature of 60 degrees Fahrenheit is observed by all refiners and marketers as standard and the volume of the oil is calculated with this understanding. Obviously the temperature of the oil leaving the plant will not be exactly 60 degrees Fahrenheit, and when it is received by the customer its temperature might be quite different, depending upon the weather. In order to make these volume corrections for temperature a table of coefficients have been agreed upon and are in common use.

But because petroleum products vary in nature from the very light gasolines to the heavy fuel oils and as each product has a slightly different coefficient of expansion the various oils have been grouped in classes for simplicity, in accordance with their weights or gravities. There are six such classes of oils and each is given a different correction factor. Those ranging in gravity from 35 to 50.9 have a coefficient of .0004, those from 51 to 63.9 gravity have a correction factor of .0005, etc. The complete table is given below and to clarify the use of the table an example is worked out.

Correction Factors for Determining the Standard Volume of Petroleum Products of Various Gravities.

Group No.	Range of group (Degs. A.P.I. at 60°F.)	Coefficient of expansion at 60°F.
I	Up to 34.9	0.0004
II	35 to 50.9	0.0005
III	51 to 63.9	0.0006
IV	64 to 78.9	0.0007
V	79 to 88.9	0.0008
VI	89 and higher	0.00085

Assuming a tank car showed a volume of 8,100 gallons of 34 gravity gas oil at a temperature of 90 degrees Fahrenheit, to get the volume at 60 degrees Fahrenheit, the standard temperature, the coefficient .0004 is multiplied by 30, which is the number of degrees higher in temperature the oil is above standard. In other words, each degree in temperature increases the volume of 1 gallon of oil .0004 gallon. The .0004 multiplied by 30 equals .012. Since the volume of the oil was taken as 8,100 gallons at 90 and the standard temperature is 60, the correct volume of the oil will be less than 8,100 gallons.

The multiplier for oil at 60 degrees is of course 1.000. If the volume of the oil is taken at a temperature higher than 60 degrees the calculated multiplier is subtracted from 1.000 and in this example the .012 would be subtracted from 1.000 or the final multiplier is .988. This figure means that 1 gallon of this oil at 90 degrees is only .988 gallon at 60 degrees.

The 8,100 gallons multiplied by .988 equals 8,003 gallons. Thus the customer would be invoiced for the 8,003 gallons. Should the volume of the oil be taken at a temperature below 60 degrees the corrected volume would be more and instead of subtracting the multiplier from 1.000 it would be added to it before multiplying the observed gallonage to get a higher figure.

GASOLINE WHEELS ILLEGAL

W. A. Smith, Attorney General for the State of Kansas, has declared the use of "gasoline wheels" a lottery, and those filling station operators using them will be prosecuted. As an inducement to the trade, certain stations throughout Kansas have adopted a form of lottery wheel and after the purchase of gasoline is made, the patron spins the wheel. If he is lucky he does not pay, but if he is not lucky he must pay the market price for what he has received. In that way the patron cannot lose, and although the chances of winning may be small, it attracts people and tends to develop a large volume of business.

NUMBER OF PRODUCTS OBTAINED FROM CRUDE OILS INCREASING

Dr. C. K. Francis
Technical Editor

There is not enough paper in the world upon which to print a complete description of the products obtainable from petroleum. It is estimated that if the name of each product now known, and those which are theoretically possible by various combinations of the carbon compounds of petroleum, should be placed on a card, one name to a card the size of the ordinary business card, and these cards spread over the ground, they would more than cover the earth. With such a host to consider, it is clear that this article must be confined to a relatively small part. Some of the better known substances will be mentioned together with a few of those which we quite reasonably expect to produce very soon.

If the products which are derived from petroleum were suddenly removed from commerce all industries would come to a stop. The world's business would cease, and there would be no illumination during the dark hours of the night. Almost all machinery would become inoperative. Trains could not move, there would be no automobiles on the roads, and we would have to guess the time of day, or return to the sun dial, because clocks and watches would not run. All of this because of the lack of oil for lubrication, gasoline for motor power, and fuel oil for the development of steam and electricity. While it is true that certain animal and vegetable oils and other substances may be used for some lubricating purposes, there are a vast number of lubricating services for which no substitute for petroleum lubricating oil is known.

Natural gas, and the gas from petroleum as collected in the modern refinery, today yields vast quantities of gasoline. This industry was unknown 20 years ago, but now Skelly Oil Co. alone makes 150,000 gallons a day. Natural gas was looked upon as an ideal fuel, but seldom transformed into articles of commerce. One of the first products to be made from gas, especially when there was little market for it, was carbon, commonly called carbon black. This product is extensively used in the manufacture of printing inks, paints, rubber goods, insulating materials and electrodes.

Natural gas, like petroleum, is not of uniform composition, consequently some gas is suitable for the preparation of numerous things, while another gas may be entirely lacking in these desirable substances. Some gas has been found to have a low fuel value, yet quite rich in that rare element, helium, a gas which does not burn nor explode, yet is very light and has great lifting power. Before the World War helium cost $2,000 a foot, but the greater emergency of the war resulted in the development of methods which reduced this cost, and today it may be made from natural gas at a cost close to $3 per 1,000 feet. There is no gas which can take its place for use in dirigible airships.

We have recently succeeded in extracting and liquefying several of the gases contained in natural gas. Propane is one of these. It has a high heating value so that when bottled in steel cylinders

(Continued on Page 151)

USES OF PETROLEUM PRODUCTS

Lubricating Oils

Ice machine oil	Cylinder oil
Dynamo oil	Sewing machine oil
Air compressor oil	Turbine oil
Tractor oil	Gas engine oil
Spindle oil	Airplane oil
Harvester oil	Knitting oil
Red engine oil	Meter oil
Auto oil	

Light Distillate
Naphtha

Soaps	Varnishes
Paint	

Kerosene
Gasoline

Dry cleaning	Leather industry
Motor fuel	Heating
Linoleum mfg.	Lighting

Residual Oil

Paving flux	Waterproofing
Wax tailings	compounds

Coke

Calcium carbide	Carbon electrodes
Electric light carbons	Fuel briquettes
	Graphite
Domestic fuel	Battery carbons
Artists' crayons	

Asphalt

Pipe covering	Asphalt shingles
Roofing paper	Paint
Insulation	Paving

Paraffin Wax

Candles	Canning
Laundry work	Electrical insulation
Waterproofing	
Matches	Medicinal purposes
Wax paper	
Candy manufacturing	Chewing gum

Fuel Oil

Diesel engines	Vessels
Furnaces	Power plants
Locomotives	Collodial fuel

Grease

Cup greases	Axle grease
Elevator grease	Cable grease
Railway grease	Launching grease
Transmision grease	Fiber grease

Special Oils

Flotation oils	Fluid heat transmision oils
Switch oil	
Transformer oil	Medicinal oil

Gas Oil

Absorption oil	Fuel gas
Illuminating gas	

PROBABLE FUTURE PRODUCTS AND USES OF PETROLEUM

Alcohols

Cleaning	Chemical reagent
Light	Esters
Solvent	Motor fuel
Preservatives	Chloroform
Heat	

Artificial Rubber

Cements	Tires
Druggist supplies	Electrical insulation
Mechanical goods	
Clothing	

Varnish Substitute
Gas

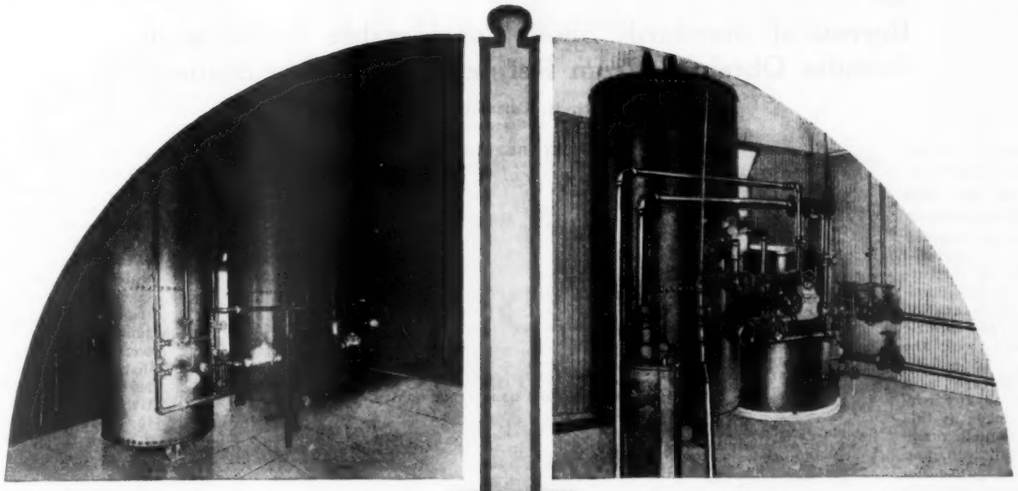
Aromatic Hydrocarbons

Benzol	Explosives
Motor fuel	Dyestuffs
Drugs	Perfumes
Artificial leather	Antiseptics
Picric acid	Saccharin
Toluol	Xylol

Fatty Acids

Lard substitute	Butter substitute
Soaps	Edible fats

Linseed Oil Substitute



Wilcox Gasoline Plant, Pampa, Texas — Sinclair Oil & Gas Company, Madison, Kan.

"Salt Pays the Premium"

SOFT water is insurance — insurance against cracked cylinder heads and faulty condenser operations.

The premium? Salt.

Many Paige-Jones Upflow Zeolite Water Softeners are now in use in refineries and gasoline plants. And all that is needed for the running of these softeners is salt.

Where could one find cheaper protection against engine failure—against loss in production, cost of replacements, labor charges?

The details of this inexpensive way of insuring engine and condenser operations will suggest a sound investment. One of our field men will be glad to call and discuss these details or shall we send our new bulletin—"Softened Water, The Universal Need."

How One Refinery States The Case For Softened Water

"We are using the softened water for boilers, gas engine jackets and enclosed type condensers and have found a decided improvement in the operation of our equipment since putting in this apparatus . . . we have practically eliminated all cracked engine heads and it is very uncommon to find scale in our engine jackets . . . we do not hesitate to say that we consider this equipment about the cheapest equipment for the results obtained of any equipment we have ever installed."

(letter refers to the Paige-Jones Softener in the Winfield, Kansas plant of the Shaffer Oil and Refining Company, Tulsa, Oklahoma.)

PAIGE & JONES CHEMICAL CO., INC.

General Sales Office, Technical Dept. and Works, Hammond, Indiana
Executive Office: 461 Fourth Ave., New York. *Offices in Principal Cities.*

PAIGE-JONES WATER SOFTENING

ZEOLITE AND LIME SODA SOFTENERS · PRESSURE SAND FILTERS
BOILER FEED WATER TREATMENTS · HOUSEHOLD WATER SOFTENERS

Knocking Characteristics of Gasolines

Bureau of Standards Show Considerable Variation in Samples Obtained From Refiners and Filling Stations

By H. K. Cummings*
Bureau of Standards.

The Bureau of Standards's routine method for determining the relative antiknock value of motor fuels has been fully described. The high-compression single-cylinder Liberty engine, coupled to an electric dynamometer, is operated at 1,500 r.p.m. for a series of mixture ratio runs with the spark set for maximum power in the absence of detonation (about 30 degrees advance). The throttle is initially adjusted so that, with the reference fuel, detonation is audible throughout most of the mixture ratio range but is not excessive at any carburetor setting. Runs are made at this throttle setting, using air-fuel ratios ranging from full rich to full lean, and the maximum indicated horsepower obtained is termed the "maximum permissible power." Similar runs are made at the same throttle setting with the fuel under test and the intensity of detonation is carefully noted.

If there is less or more detonation with the test fuel, the throttle is adjusted until the detonation matches that obtained with the reference fuel and a third set of runs is made at the new throttle setting. The maximum indicated horsepower developed by the test fuel at the final throttle setting is compared with the maximum indicated horsepower developed by the reference fuel at the initial throttle setting. Fuels are rated on a percentage basis in terms of maximum permissible power. Thus, if the reference fuel gave 25 horsepower and the test fuel 30 horsepower, the knock ratings would be: Reference fuel, 100 and test fuel, 120. Oil and water temperatures are maintained approximately constant but the intake air is not heated. All ratings are preferably made as direct comparisons between two fuels. Such comparisons are ordinarily reproducible to within 1 or 2 per cent.

Variety of Samples

For use in the detonation survey, several refiners were asked last winter to submit samples of gasoline typical of current refinery production. Fifteen samples were received and those are listed in Table 1 where SR is used as an abbreviation for straightrun, Cr for cracked, and B1S for blending stock. Gravities and distillation data are presented for all samples except Nos. 1 and 2 which were used up without securing laboratory tests. Sample 16 was the Bureau of Standards reference fuel and is therefore rated 100. It will be noted that the refinery samples range from 11 per cent worse to 30 per cent better than this reference fuel.

In Table 2, the same 16 fuels are arranged in the order of their knock rating and there appears to be little difference in this respect between No. 9 and No. 14; No. 1 and No. 10; between No. 2, No. 4 and No. 15; between No. 6 and No. 12; and between No. 8 and No. 11. Benzol equivalents based on No. 16 have been estimated as a matter of interest but the available samples were not large enough to permit direct comparison with benzol blends. In the next to the last column are presented knock ratings based on the straightrun Pennsylvania sample, taken as 100. In the last column are estimated benzol equivalents indicating that 15 per cent of benzol blended with No. 3 would place it between No. 9 and No. 10 while 20 per cent would nearly bring it up to No. 16. A 50-50 blend of No. 3 with benzol would probably not equal No. 7.

*Report made in connection with the Cooperative Fuel Research of the American Petroleum Institute and the Society of Automotive Engineers.

TABLE 1—DATA ON REFINERY SAMPLES

Sample No.	Description	Knock rating	Grav. A.P.I.	Initial °F.	20% °F.	50% °F.	90% °F.	Dry °F.	Recovery %
1	Salt Creek, SR	98	...	...	...	...	...	...	...
2	Salt Creek, CR	104	...	...	...	...	...	...	...
3	Pennsylvania, SR	89	61.5	122	216	271	369	444	98
4	Commercial (Pa.)	104	56.9	100	194	280	392	428	96
5	Commercial (N. J.)	110	60.2	108	187	262	358	405	97
6	Smackover, B1S	117	57.7	109	199	255	345	405	98.5
7	Los Angeles, SR	125	56.9	109	198	243	329	401	98.5
8	Los Angeles, SR	120	56.2	102	196	261	349	392	97.5
9	Oklahoma, SR	95	57.9	117	219	277	349	392	98
10	Ohio, SR	97	60.0	109	225	268	334	383	97.5
11	Los Angeles, SR	122	52.7	108	221	282	388	439	98
12	Spindletop, SR	117	52.3	144	223	270	352	405	98
13	Spindletop, CR	130	48.3	88	208	320	403	432	96
14	Amarillo, SR	93	56.9	113	212	258	388	430	98
15	Amarillo, CR	104	54.4	100	212	311	401	430	98
16	Commercial, Ref.	100	57.2	111	208	277	390	435	97

TABLE 2—RATING OF REFINERY SAMPLES

Sample No.	Description—	Throttle	Knock Rating Re No. 16	Approx. Benzol Equiv. Re No. 16	Knock Rating Re No. 3	Approx. Benzol Equiv. Re. No. 3
3	Pennsylvania, SR	2.0	89	..	100	0
14	Amarillo, SR	2.5	94	..	105.6	..
9	Oklahoma, SR					15
10	Ohio, SR	2.7	97.5	..	109.6	
1	Salt Creek, SR					20
16	Commercial Ref.	3.0	100	0	112.4	..
2	Salt Creek, Cr					
4	Commercial (Pa.)	3.3	104	10	114.5	25
15	Amarillo, Cr					
5	Commercial (N. J.)	3.5	110	20	123.6	35
6	Smackover, B1s					
12	Spindletop, SR	4.0	117	30	131.5	..
8	Los Angeles, SR					
11	Los Angeles, SR	4.2	121	33	136.0	..
7	Los Angeles, SR	4.6	125	37	140.5	..
13	Spindletop, CR	4.8	130	40	146.0	..

TABLE 3—MAKEUP OF COMPOSITE GASOLINE SAMPLES

No. 1. Represents Maine, New Hampshire, Vermont, Massachusetts, Rhode Island, Connecticut.

	Per cent
Standard Oil Co.	60
Gulf Refining Co.	21
The Texas Company	10
Atlantic Refining Co.	4
Mexican Petroleum Co.	2
Tidewater Oil Co.	2
Beacon Oil Co.	1

No. 2. Represents District of Columbia, Delaware, Maryland, New Jersey, New York, Pennsylvania, Virginia, West Virginia, North Carolina.

	Per cent
Standard Oil Co.	30
The Texas Company	18
Sinclair Refining Co.	7
Atlantic Refining Co.	10
Crew Levick Co.	3
Sun Oil Co.	2

No. 3 Represents Illinois, Indiana, Michigan, Ohio, Kentucky.

	Per cent
Standard Oil Co. (Ind.)	63
Sinclair Refining Co.	11
Pure Oil Co.	7
Indian Refining Co.	6
Roxana Petroleum Corp.	6
The Texas Company	2
Cities Service Co.	3
Gulf Refining Co.	1
Marland Refining Co.	1

No. 4. Represents Colorado, Iowa, Idaho, Minnesota, Montana, Nebraska, North Dakota, South Dakota, Wyoming.

	Per cent
Standard Oil Co.	63
Sinclair Refining Co.	13
Roxana Petroleum Corp.	3
Cities Service Co.	3
Marland Refining Co.	1
The Texas Company	6
Pure Oil Co.	5
Continental Oil Co.	6

No. 5. Average sample of Pacific Coast gasoline furnished by Mr. Terry (Standard of California).

No. 6. Average mixture of what is being sold in Texas.

	Per cent
Magnolia Petroleum Co.	28
Gulf Refining Co.	28
The Texas Company	23
Pierce Oil Co.	11
Humble Oil Co.	7
Cities Service Co.	3

TABLE 4—LABORATORY DATA ON COMPOSITE SAMPLES (THE TEXAS COMPANY)

Sample No.— Description—	1 New Eng.	2 New York	3 Chicago	4 Denver	6 Texas
Color, Saybolt	+6	+10	+16	+19	+14
Gravity, A.P.I.	54.7	57.3	57.4	58.2	57.2
Doctor test	Negative	Negative	Negative	Negative	Negative
Unsaturation	7%	6%	8%	6%	8%
Copper strip test	Good	Good	Good	Good	Good
Antiknock value	0.75	0.75	0.75	0.70	..
Distillation:					
I.B.P.	110° F.	112° F.	100° F.	98° F.	102° F.
10%	174	171	168	160	160
20%	206	202	204	199	193
30%	230	230	230	226	228
40%	255	253	257	251	260
50%	274	272	278	275	272
60%	296	294	300	298	294
70%	315	316	322	320	322
80%	337	338	348	347	340
90%	368	369	382	377	370
95%	394	394	408	405	395
End	420	417	426	422	410
Recovery	98.0%	98.0%	98.0%	97.0%	98.0%
Residue	1.0%	1.0%	1.0%	1.0%	1.0%
Loss	1.0%	1.0%	1.0%	1.0%	1.0%

TABLE 5—RATING OF COMPOSITE SAMPLES (COMMERCIAL GASOLINE)

Sample No.	Description—	Throttle	Knock rating	Sample No.		Approximate Knock Rating	Approximate Benzol Equiv. %
1	New England	2.6	84.3	3	Chicago	100.0	..
3	New York	2.6	84.4	4	Denver	101.5	..
3	Chicago	2.4	82.3	1 & 2	N. Y. & N. E.	103.0	10
4	Denver	2.5	83.4	6	Texas	105.0	15
5	California	3.6	97.4	10	Blend	109.7	20
6	Texas	2.7	86.4	5	California	113.4	30
7	Fuel X	4.2	105.1	9	Ref. (B. of S.)	121.6	35
8	Fuel Y	6.0	124.8	7	Fuel X	128.0	40
9	Reference (B. of S.)	3.8	100.0	8	Fuel Y	151.9	50
10	No. 3 + Benzol	3.0	90.3				

Laboratory Data (Bureau of Standards)

Sample No.	Gravity A.P.I.	Initial °F.	20% °F.	50% °F.	90% °F.	Dry °F.	Recovery %
1	57.2	108	198	270	374	424	97.2
2	57.4	108	199	273	376	423	96.9
3	57.4	109	199	277	376	430	97.4
4	57.7	113	201	277	388	430	96.3
5	55.4	106	196	286	381	421	96.9
6	58.4	104	189	273	381	419	96.9
7	52.7	113	172	307	331	383	96.5
8	44.9	127	185	221	374	419	97.2
9	51.6	115	217	282	388	428	97.6

Average Gasolines

It was next decided to supplement this survey with a comparison of the average gasoline available to motorists in different sections of the country. Samples which had been collected from filling stations in a number of geographical districts were blended to give six composite samples. Only nonpremium gasolines were included and the blend for each district was made up on the basis of the best available information as to the relative amounts of gasoline sold by leading oil companies in that district. Table 3 shows the percentages used in preparing five of the composite samples and Table 4 shows laboratory data on these five samples furnished by The Texas Company.

Table 5 presents the bureau's laboratory data and knock ratings on the six composite fuels and three other fuels. No. 7 and No. 8 are commercial premium gasolines purchased on the open market in Washington and No. 9 is the reference fuel in use at the time these tests were made. This reference fuel, although rather poor in volatility, has a relatively high antiknock value, being nearly 20 per cent better than the reference fuel with which the refinery samples were compared. It will be seen that the first four composite samples differ very little in knock rating. The Texas sample (No. 6) is slightly better and the California sample (No. 5) is considerably better but still not equal to No. 9. In the second section of Table 5 the samples have been arranged in the order of their knock rating and rated in terms of the Chicago district sample (No. 3) as 100. The benzol equivalents given here are estimated except for No. 10 which was prepared by blending No. 3 with 20 per cent of benzol.

GEOLOGIST REPORTS ON WELL AT ROMA

H. S. Lyne, late geologist for the Standard Oil Co. in Venezuela, writes the London Oil News about his visit to the well at Roma, Australia.

Roma is situated 318 miles west of Brisbane, Queensland, and is reached by train in 15 hours from Brisbane.

Oil was found at a depth of 3,705 feet in the lower Wallon series (Jurassic). It is water white and contains 50 per cent kerosene and about 50 per cent benzine (petrol) and no lubricating oils, asphalt or paraffin wax. Gas accompanies the oil, flowing at the rate of 10,000,000 feet per day. this gas contains up to 2 pints of petrol per 1,000 feet. The oil flows at the rate of 10 to 12 bbls. per day.

It is not a commercial well, but establishes the fact that oil does occur in Australia, and if a good anticlinal formation is found in this area, oil will be found in payable quantities.

This formation covers an area of over 15,000 square miles. The ground for a radius of 30 miles from the Roma well has been taken up in leases, but this is only a small part of the total area; and anywhere in this 15,000 square miles, given the right geological conditions, oil should be found in payable quantities. At Longreach, 360 miles northwest of Roma, indications of crude oil and paraffin wax have been found in a bore put down by the town council for water.

The Roma Oil Co. is preparing to drill another well, and there are two or three new companies getting ready to start operations there.

Interchangeable!

The G-R Bentube Sections

are standard and interchangeable. Sections may be moved about the plant and built up into stacks of various capacities or cooling effect as required by changes in operating conditions.

The Griscom-Russell Company
285 Madison Ave., New York
Branches in principal cities.

Note these additional features of the G-R Bentube Section

Maintains guaranteed capacity by automatically shedding scale accumulations.

Construction of Admiralty metal tubes and cast iron headers assures long life and high salvage value.

Tubes readily accessible for easy cleaning of interior.

Design provides for drainage and free expansion.

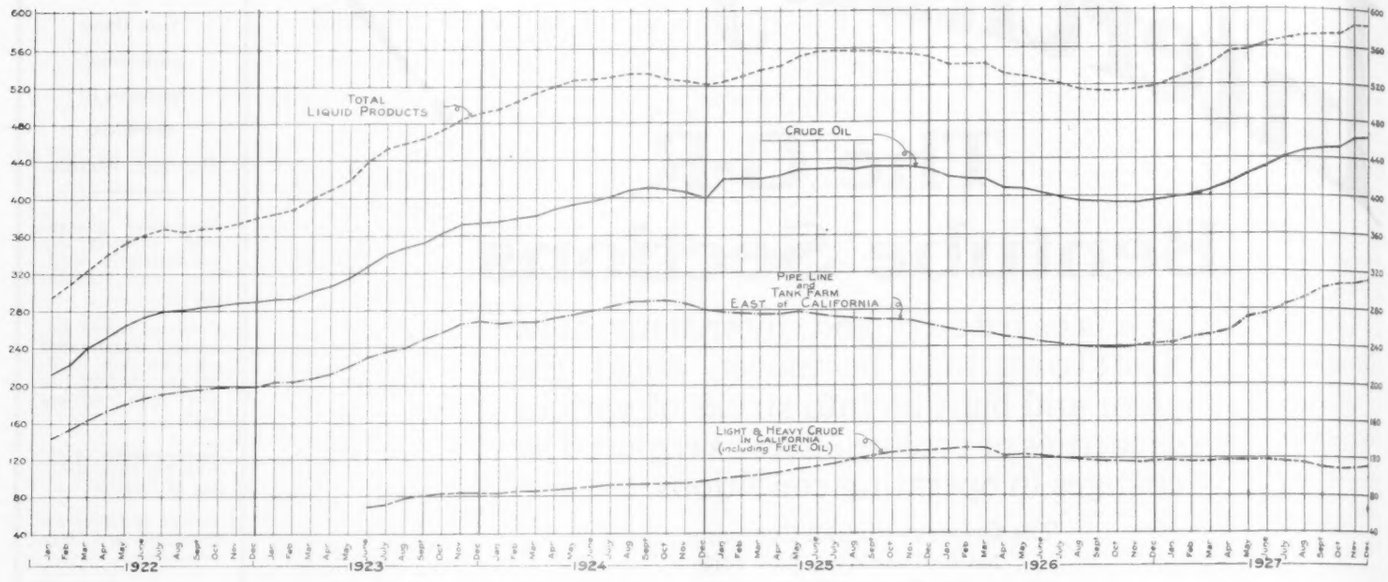
Griscom-Russell

Heat Transfer Apparatus

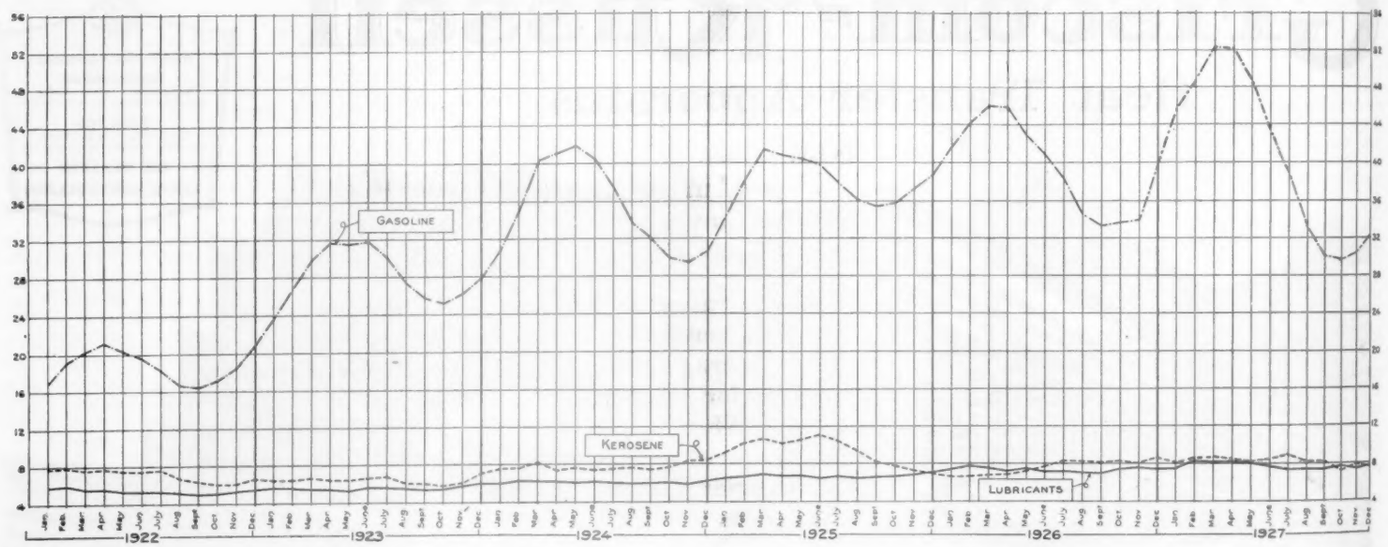
HEAT EXCHANGERS
CONDENSERS
Sub-cooling—Partial—Reflux
COOLERS
Liquid—Gas—Jacket Water
OIL HEATERS
LEVEL CONTROLLERS

Graphic Analyses of Crude Oil and Refined Products

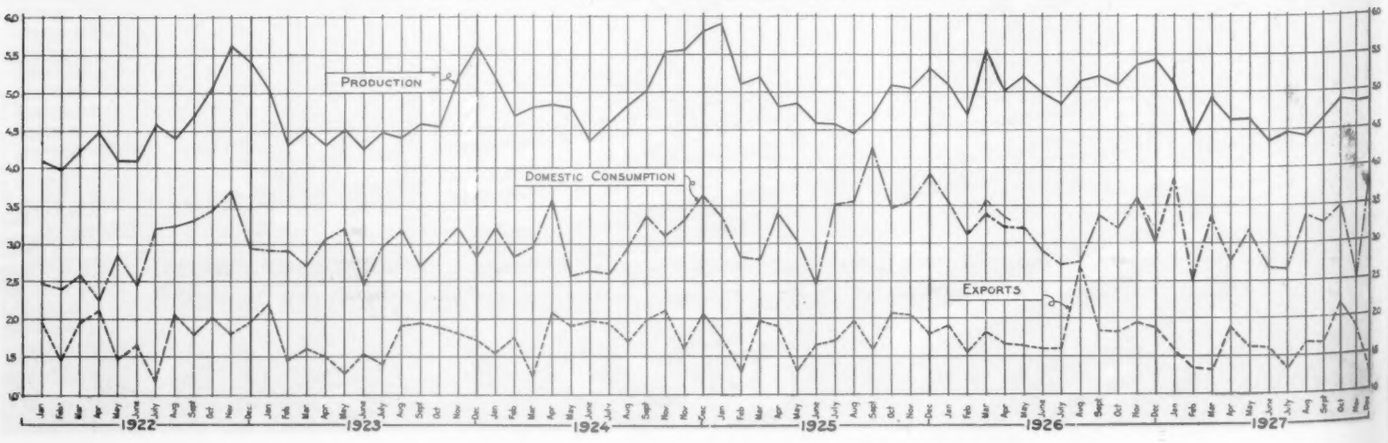
Crude oil stocks. The total liquid stocks given in line "Crude Oil and Refined Products" consists of all crude oil and refined products reduced to barrels. (Millions of barrels.)



Gasoline, kerosene and lubricating oil stocks. (Millions of barrels.)

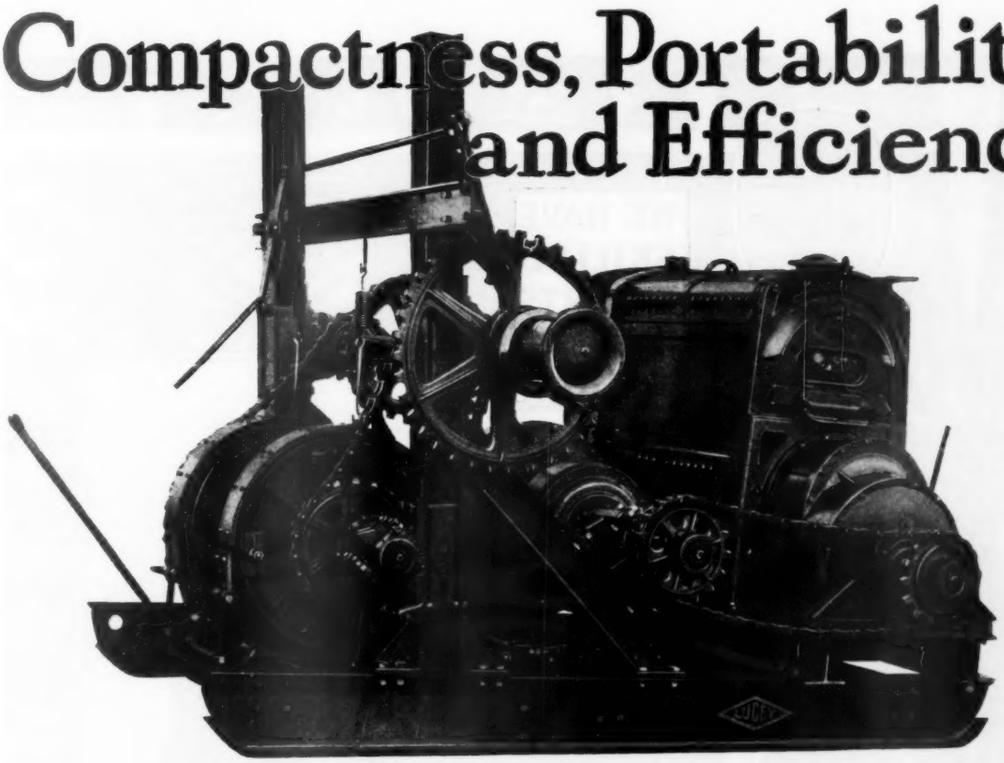


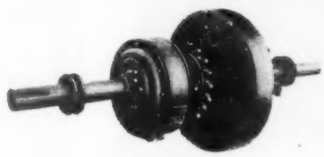
Kerosene production, domestic consumption and exports. (Millions of barrels.)



LUCEY LUCEY LUCEY LUCEY LUCEY LUCEY LUCEY LUCEY LUCEY LUCEY

Compactness, Portability and Efficiency





Two Speed, 2500 Ft. Draw Works

NEW standards of mechanical efficiency are evidenced in the improved Lucey Portable Draw Works shown above. This unit should find an immediate and widespread field of usefulness.

Simple arrangement of all parts, the highest grade materials, combined with a disc type, full releasing, positive non-drag type of clutch, makes this a leader of portables for a depth of up to 2500 ft. Clutch is of a new design. Whole machine can be mounted on an Athey Wagon, or used anywhere. As usual, Lucey patented and superior features on drum shaft and brake band mechanism.

Lucey Heavy Duty Roller Bearing Reverse Clutch

Single plate disc type. Driving plate is fixed in position, and the two clamping plates move away from it. Full clearance of 1/8" from each friction face is obtained, thus eliminating drag in reverse motion. The friction plate can be removed for relining and replaced without disassembling the entire clutch mechanism. Capacity 312 H.P. per 100 R.P.M., working tongue 156 H.P. per 100 R.P.M. Sprockets of any number of teeth for either No. 1240 or No. 1030 chain or belt pulleys up to 14" face can be furnished.

All Lucey Products are made according to A.P.I. Specifications.

Write or see our representative near you for full details.

LUCEY MANUFACTURING CORPORATION
of Tennessee
Chattanooga, Tennessee

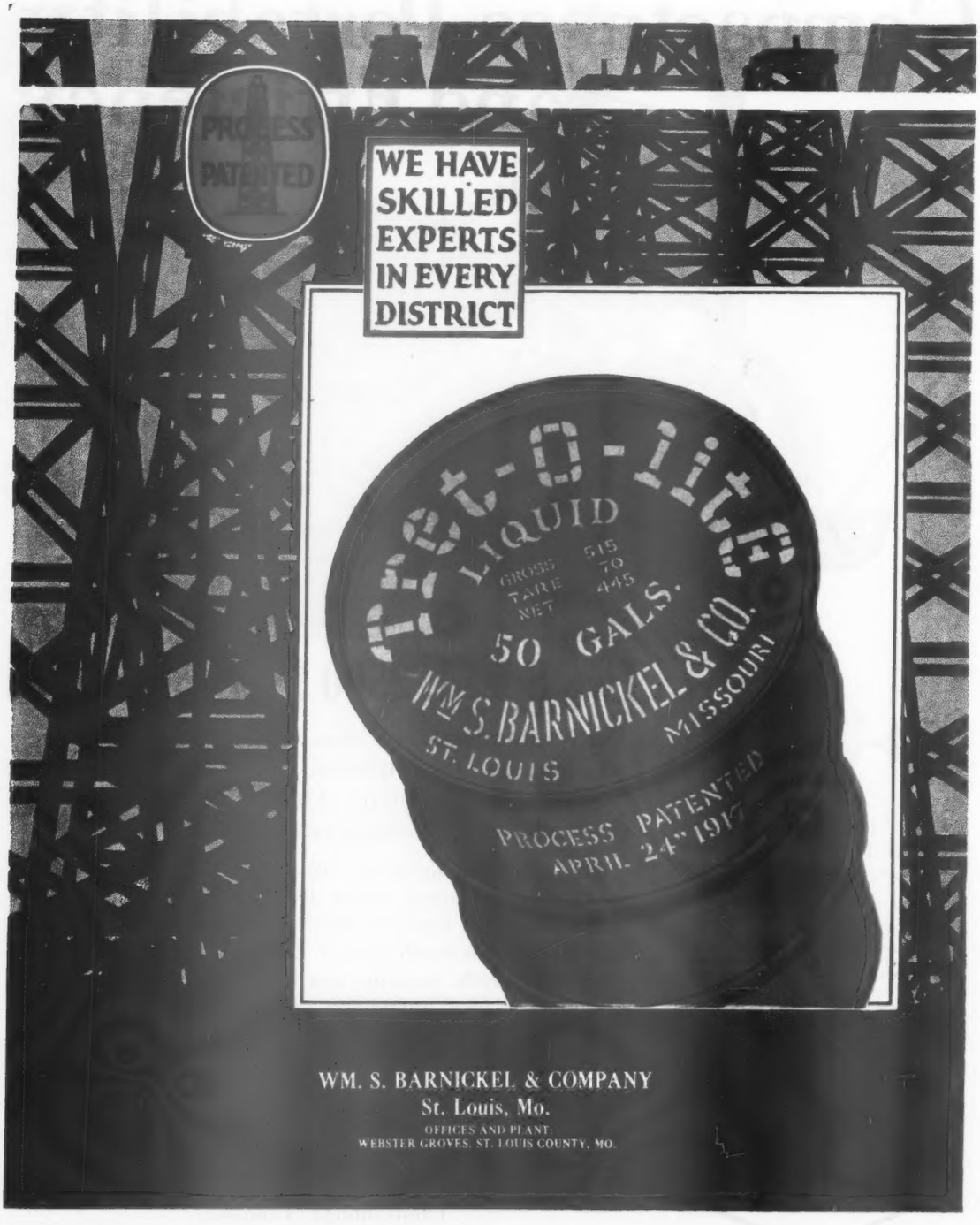
LUCEY
EQUIPMENT
BOILERS --- DRAW WORKS
ROTARIES --- PUMPS

SALES DEPARTMENT
Lucey Products Corporation
EXPORT:
3505 Woolworth Bldg.
New York, N. Y.
DOMESTIC:
224 East Brady St.
Tulsa, Okla.
1515 East Seventh St.
Los Angeles, Cal.

DISTRIBUTORS:
T. T. Word Supply Co., Houston, Tex.
Bradford Supply Co., Wichita Falls, Tex.
Hercules Supply Co., Dallas, Tex., and Pyote, Tex.
Bridgeport Machine Co., Wichita, Kan.
International Supply Co., Tulsa, Okla.
George J. Hansen, Inc., Los Angeles, Cal.
Oil Well Equipment Co. (Lucey Boilers) Los Angeles, Cal.
Petroleum Equipment Co., Los Angeles, Cal.

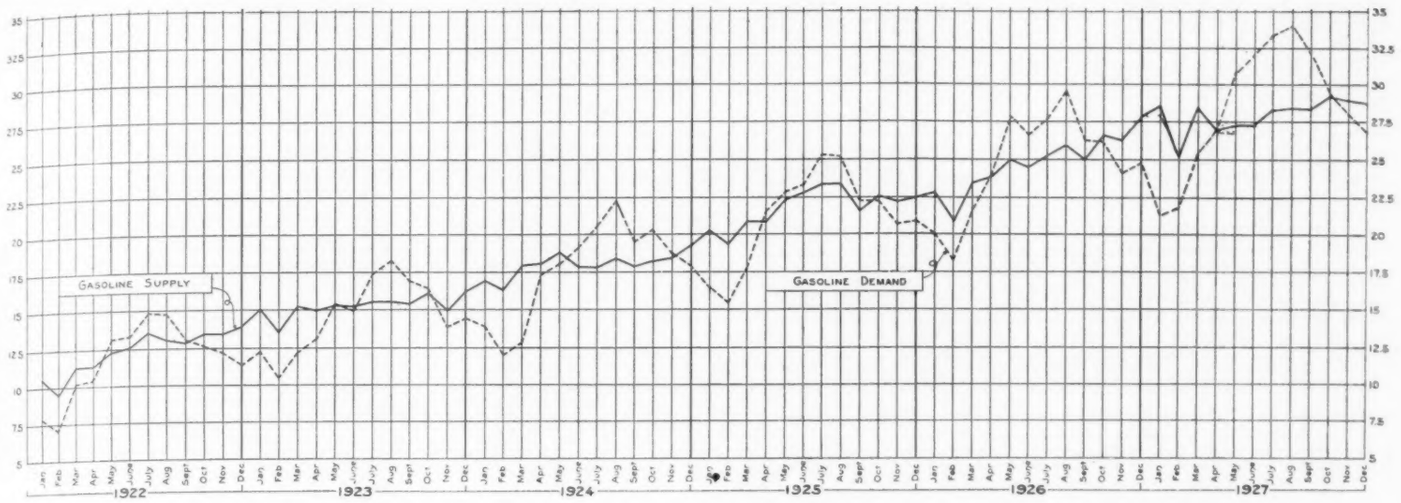
WHEREVER THERE'S OIL

LUCEY LUCEY LUCEY LUCEY LUCEY LUCEY LUCEY LUCEY LUCEY LUCEY

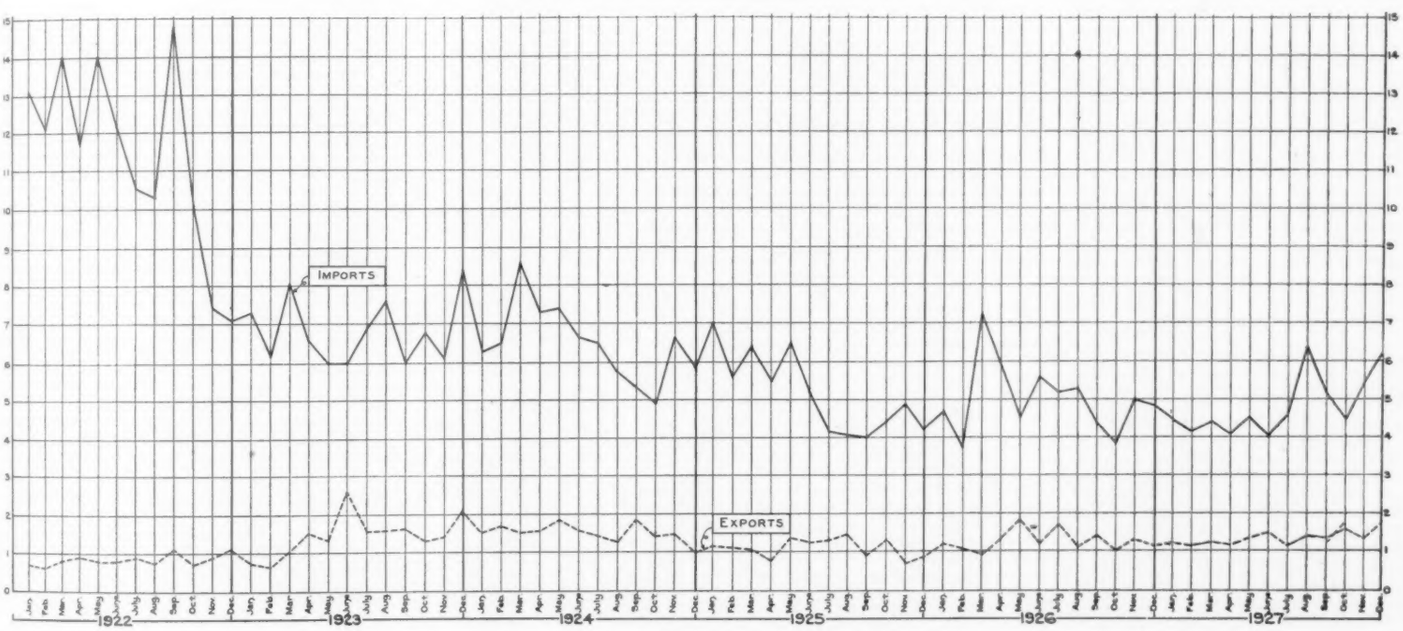

PROCESS PATENTED
WE HAVE SKILLED EXPERTS IN EVERY DISTRICT
Tret-O-lite
LIQUID
GROSS 515
TARE 70
NET 445
50 GALS.
WM S. BARNICKEL & CO.
ST. LOUIS MISSOURI
PROCESS PATENTED APRIL 24" 191
WM. S. BARNICKEL & COMPANY
St. Louis, Mo.
OFFICES AND PLANT:
WEBSTER GROVES, ST. LOUIS COUNTY, MO.

Tret-O-lite

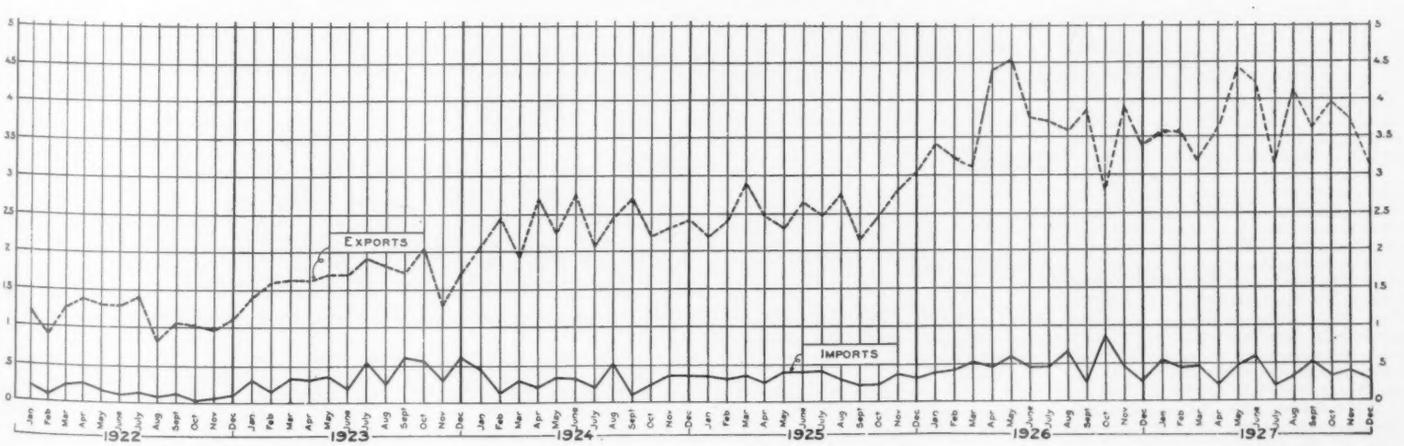
Gasoline supply (production plus imports) and demand (domestic demand plus exports). (Millions of barrels.)



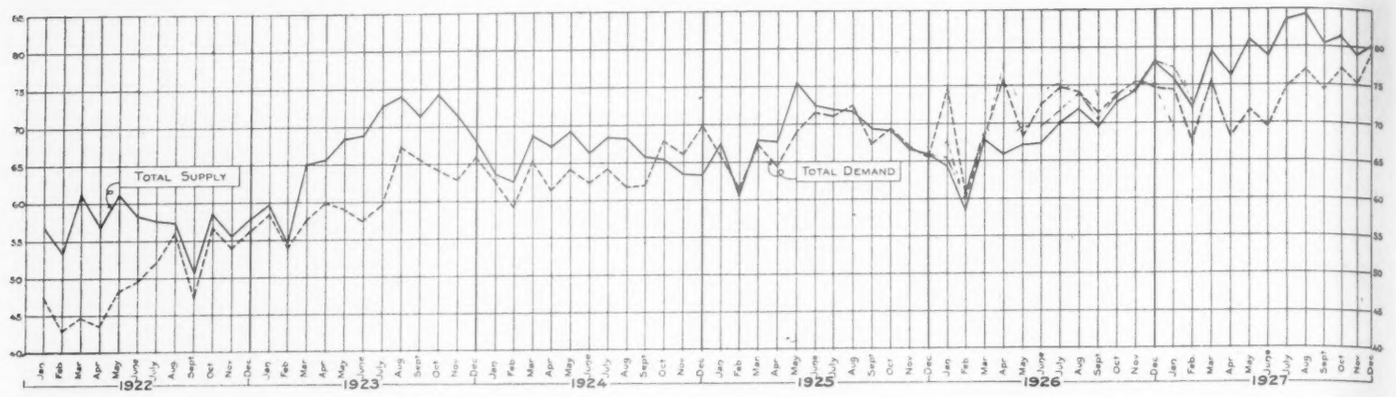
Crude oil imports and exports. (Millions of barrels.)



Gasoline imports and exports. (Millions of barrels.)



Crude oil supply (domestic production plus imports) and demand (domestic consumption plus exports). Data on demand include California fuel oil starting January 1, 1925. (Millions of barrels.)



ARGENTINE PETROLEUM DIRECTOR DESCRIBES PAST YEAR'S OPERATIONS

MEXICO CITY, Mexico, Feb. 10 (By Trens Agency).—A brilliant future for the Argentine oil fields is predicted under government exploitation by Gen. Enrique Mosconi, director general of fiscal petroleum deposits in Argentina, who has been making a study of Mexican petroleum laws and procedure.

General Mosconi states that while the government has appropriated 160,000,000 Argentine pesos for exploitation work, it had only been necessary to draw on 8,500,000, the exploitation paying for itself to so large an extent. Speaking of the petroleum situation of Argentina in general, he says:

"In the industrial movement of the Argentine Republic, petroleum exploitations, particularly in recent years, have taken on an essential importance, having reached a stage of normal development and drawing away from the uncertain period of initial exploitations.

"In this industry, the Direction General of Petroleum Deposits, an agency dependent from the national government, which exploits the fiscal zones of Comodoro Rivadavia and Plaza Huincul, is the most important of the Argentine enterprises.

"The production of crude petroleum during 1927 reached 1,300,000 cubic meters, 730,000 from fiscal exploitation and the remainder by private companies. From the cracking of this crude petroleum there was obtained 1,078,000 cubic meters of fuel oil, 615,000 belonging to state exploitation, and the production of naphtha and kerosene amounted to 200,000,000 liters, of which the official distribution turned over 120,000,000 liters for internal consumption.

Home Consumption

"The needs of home consumption, undoubtedly required, during this period, larger quantities of the first mentioned product, although in small proportion, but in much larger proportion for the latter two. The total consumption of fuel oil by the industries of the country in 1927 was 1,278,000 tons, of which only 200,000 came from foreign production. For the lighter fuels, naphtha and kerosene, this proportion increased considerably, the consumption of the country reaching 500,000,000 liters, of which 350,000,000 were supplied by importing companies.

"In the Argentine petroleum exploitation the fiscal distribution has reached the greatest importance, its production being greater than that of all other companies combined. The director general of fiscal petroleum deposits constitutes, thus, with its various dependencies, which take in all the manifestations of petroleum exploitation—the most complete, undoubtedly, of contemporaneous industrial movements—an organization exclusively of the Argentine government. Its several sections cover all the development of the industry, from the geological exploration and the extraction of the petroleum, to the sale to the public of the derivatives of this fuel, there being adopted in each case the system which is most convenient for the national interests.

"The fiscal distribution now exploits intensively the deposits of Comodoro Rivadavia, in the first place, and those of Plaza Huincul, the former in the national territory of Neuquen and the latter in Chubut. All the crude production from both fields is treated in the fiscal refinery at the port of La Plata, a modern plant of recent construction, with a capacity for treating from 2,000 to 2,400 tons a day. For the transportation of the crude and its derivatives, the distribution has a fleet of seven ships with a total cargo capacity of 50,000 tons.

Distribution of Products

"The apportionment of the products by the distribution has been made in a convenient manner, with the purpose that they reach the consuming public directly, without the intervention of third parties, which would increase prices, and in accord with the requirements of each zone in the country To this end, in addition to the distribution plants installed in the more important cities in the various regions of the country and in which there are storage tanks with a total capacity of 500,000 cubic meters, agencies are in operation in all parts of the interior, which, because of their importance, require it, the total of these, at the end of last year, reaching 900, a figure which, although large and reflecting in itself, not only the importance of distribution but, seen from abroad, the importance which our interior districts are taking on, is increasing as circumstances demand it.

"The funds at the disposal of the Direction General of Fiscal Petroleum Deposits, at the end of the year 1927, amounted to 160,000,000 pesos, Argentine currency, that is $70,000,000. This organization is dependent from the Department of Agriculture, but is autonomous in its functions and directed by an administrative commission, composed of a chairman and six members, the director general of the distribution being chairman.

"Finally, in order to show the importance of the petroleum exploitation by the Argentine government, as well as the sound foundation on which its expansion has been based, let me say that of the funds available, which I have mentioned, the government only contributed 8,500,000 pesos, disbursed at various times; the last budget being of 500,000 in the year 1916, since which time the distribution has met its budget and all extension work from its own income."

COMMISSION REPORTS ON PANHANDLE PRICE

WASHINGTON, D. C., Feb. 11.—The Federal Trade Commission has sent to Congress a report on its investigation of prices of crude petroleum produced in the Panhandle Field of Texas. The report reveals that a reduction of prices in Panhandle crude late in 1926 was largely a result of difficulties of handling and expenses of marketing this oil because of peculiar physical properties.

The commission reports that at the time these prices declined there was strong belief among Panhandle producers that they were being discriminated against by the purchasing companies.

In summarizing its conclusions regarding the Panhandle price situation the commission states in effect the following:

1. Rapid development of the Panhandle oil field resulted in an oversupply of crude petroleum of a quality and character unlike that theretofore produced in other parts of the Mid-Continent Field.

2. Physical properties and characteristics of Panhandle crude petroleum were such as to involve greater expense in transportation, storage and refining and consequently to preclude immediate demand for a daily output.

3. Practically all petroleum sold in the Panhandle Field was produced by companies having refining facilities not immediately suitable for successfully handling the new product. They nevertheless were obliged to assume the expense of storage and the task of finding methods adequate for refining and treating the crude product. Doubtless they will eventually make this oil acceptable for commercial sale and use.

4. Controlling reasons alleged in support of the price reduction were based on the objectionable physical properties of crude petroleum produced in Hutchinson and Carson Counties, Texas, as compared with petroleum produced in other parts of the Mid-Continent Field.

5. Chemical analyses of Panhandle crude petroleum by private laboratories and the United States Bureau of Mines appear to sustain the reasons and position of purchasing companies with respect to the physical properties of Panhandle crude petroleum as compared with crude petroleum produced in other parts of the Mid-Continent Field.

The commission's report further states that three factors that determine the dif-

(Continued on Page 150)

RECEIPTS OF CALIFORNIA OIL AT ATLANTIC AND GULF COAST PORTS, YEAR 1927

Receipts of California crude and refined oils at Atlantic and Gulf Coast ports for the year 1927 totaled 32,860,000 bbls., a daily average of 90,000 bbls., compared with 33,038,000 bbls., a daily average of 91,000 bbls. for the year 1926.

Receipts at Atlantic Coast ports were 32,678,000 bbls., a daily average of 90,000 bbls., compared with 32,634,000 bbls., a daily average of 90,000 bbls., for the previous year.

Receipts at Gulf Coast ports were 182,000 bbls., a daily average of less than 500 bbls., compared with 404,000 bbls., a daily average of 1,000 bbls. for the previous year.

Receipts by months during the year 1927 at the principal ports are shown in the following table in thousands of 42-gallon barrels:

RECEIPTS OF CALIFORNIA OIL AT ATLANTIC AND GULF COAST PORTS, YEAR 1927
(In thousands of 42-gallon barrels.)

	1927												Total	
At Atlantic Coast Ports:	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	1927	1926
Baltimore	158	734	515	380	324	767	418	574	691	649	283	333	5,826	5,419
Boston	256	85	170	131	237	337	456	95	209	135	85	94	2,290	3,213
New York	815	917	1,758	1,430	570	1,465	1,025	1,492	1,542	1,487	999	938	14,438	11,689
Philadelphia	493	240	430	453	193	521	169	728	586	446	148	219	4,795	5,949
Others	459	511	416	399	286	521	283	537	437	438	455	756	5,329	6,431
Total	2,181	2,487	3,289	2,793	1,610	3,611	2,351	3,426	3,465	3,155	1,970	2,340	32,678	32,634
Daily average	70	89	106	93	52	120	76	111	116	102	66	75	90	90
At Gulf Coast Ports:														
Port Arthur and Sabine district	....	....	....	....	....	....	....	....	....	....	....	92	92	341
Tampa	25	....	15	....	....	....	20	....	....	....	....	20	90	63
Total	25	....	15	....	....	....	30	....	....	....	....	112	182	404
Daily average	1	....	1	....	....	....	1	....	....	....	....	4	....	1
At Atlantic and Gulf Coast ports	2,206	2,487	3,304	2,793	1,610	3,611	2,381	3,426	3,465	3,155	1,970	2,452	32,860	33,038
Daily average	71	89	107	93	52	120	77	111	116	102	66	79	90	91
Distribution of receipts was as follows:														
Crude	355	827	644	738	243	1,605	903	1,530	1,227	785	883	701	10,441	12,147
Gasoline	720	788	963	861	719	1,269	921	1,165	1,235	1,139	706	1,055	11,512	8,015
Kerosene	....	....	....	....	....	....	....	....	....	....	....	185	185	....
Gas oil	230	396	525	148	310	78	293	237	372	311	241	148	3,289	4,862
Fuel oil	843	476	1,182	988	338	610	264	504	631	862	140	326	7,164	7,003
Lubricants	58	....	....	58	....	58	....	....	....	58	....	57	289	611
Gasoline tops	....	....	....	....	....	....	....	....	....	....	....	....	....	399
Total	2,206	2,487	3,304	2,793	1,610	3,611	2,381	3,426	3,465	3,155	1,970	2,452	32,860	33,038

As evidence of our confidence and to identify the quality of Long-Bell Poles, each pole is branded with the above trade-mark with place of creosoting and date indicated by a letter and figures, five feet above the ground line.

Let this Long-Bell trade-mark be your guide to poles that assure strength, long life and dependable service.

for Economical Pole Service Along Pipe Lines

LONG-BELL Creosoted Poles are particularly adapted for use by oil and gas companies along their pipe lines because their great strength and durability practically assure uninterrupted service. Because Long-Bell uses only straight, strong trees which are scientifically seasoned these poles have unsurpassed breaking and bending strength. They resist winds of great velocity. Pressure treated full length with grade No. 1 creosote fortifies them against decay and fire.

Long-Bell Creosoted Poles are accepted and approved as mainstays of signal, power and communication lines because of their long life and dependability. Because of our vast timber holdings and immense stocks of various size poles, prompt shipment is assured. Write for full information.

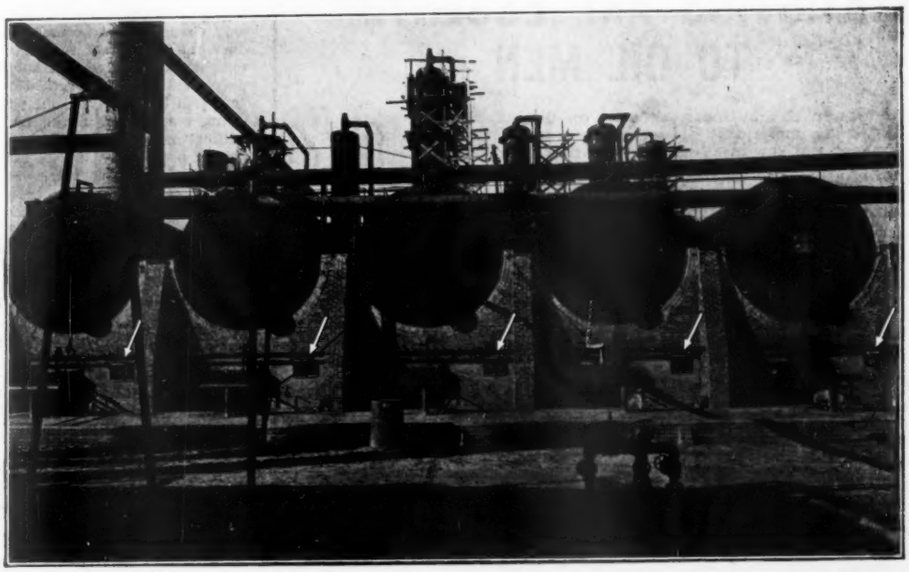
The Long-Bell Lumber Company
707 R. A. LONG BLDG. KANSAS CITY, MO.

LONG-BELL
CREOSOTED *Yellow Pine Poles*

Tycos

Instruments for ALL Applications

THIS is but one use for *Tycos* temperature instruments in the oil business. There are hundreds of others for in few other industries are the uses of heat so diversified and so important.



This illustration shows Tycos Recording Thermometers on a battery of crude oil stills.

Tycos temperature instruments have rendered excellent service for oil operators all over the world. They have been called upon to handle every temperature requirement. It is with confidence, therefore, that we recommend these sturdy, reliable instruments for your refinery.

Our engineers will gladly demonstrate why their uniform results and low upkeep make them worthy of being made the standard in *your* plant.

Send *today for Tycos Catalog, part, 1700, showing instruments for use in the Oil Industry.*

Taylor Instrument Companies
ROCHESTER, N. Y., U. S. A.

Canadian Plant
Tycos Building
Toronto

Manufacturing Distributors
in Great Britain
Short & Mason, Ltd., London

Oil and Gas Separators

are now standard equipment on oil wells all over the world, and the TRUMBLE is a standard product with many of the largest oil companies, because of its reliability.

Its full automatic control makes it adaptable to flowing or pumping wells under any and all conditions.

TRUMBLE GAS TRAP COMPANY

LOS ANGELES
701-734 Higgins Building,
Metropolitan 1902

TULSA
C. F. Camp
221 East Archer Street

MONTANA, WYOMING & ALBERTA
Great Northern Tool & Supply Co.
Billings and Kevin, Montana

STATISTICS ARE ESSENTIAL TO OIL MEN

Progress in any business is based on dependable knowledge; a well defined method of procuring accurate facts concerning that business; and the intelligent application of those facts.

This is especially true of the Oil Business with its interrelated branches divided into complicated departments, each quickly responsive to new developments.

Reliable statistics and a correct analysis of them appear in every issue of The Oil and Gas Journal with charts, diagrams and symbols, making it easier for you to visualize the exact state of affairs almost at a glance.

You can always get the exact information that you desire in The Oil and Gas Journal.

The OIL and GAS JOURNAL
PRODUCING REFINING MARKETING

(The Oil Man's Bible)

TULSA, OKLA.

MYERS SELF-OILING POWER PUMPS AND WORKING HEADS

Positive and continuous self-lubrication, enclosed working parts, extra large valves and other radical departures in design and construction, provide exceptional power water facilities for mill, mine, or factory, contractor or highway builder, oil or gas operator. There is a style and size for every requirement. Over twenty-five thousand jobbers, supply houses and dealers distribute Myers Products. Ask yours, or write us direct.

THE F. E. MYERS & BRO. CO. Ashland, Ohio
ASHLAND PUMP AND HAY TOOL WORKS

CEMENTING BOTTOM HOLE WATER AND PROPER USE OF ACCELERATORS

By William Victor Vietti and W. A. Oberlin*

The shut off of bottom hole water in oil wells is an accepted practice in the oil industry. Operators are familiar with the use of lead wool, cement, and limit plugs for this purpose. The type of hole and the character of the formation are generally the deciding factors as to what type of shutoff is attempted.

There are a great number of brands of cement which are satisfactory for oil well cementing. Generally, all that need be specified in a general way is that the cement used be a high grade Portland cement. There are available to the industry several cements with special properties which make their use in certain jobs desirable. For the bulk of work, however, Portland cements are highly satisfactory and easily procured if not in stock. Portland cements are usually uniform in quality but attention must be given to storage conditions both in the factory and in the field. Storing in a moist atmosphere ruins the cement, as cement absorbs moisture from the air,

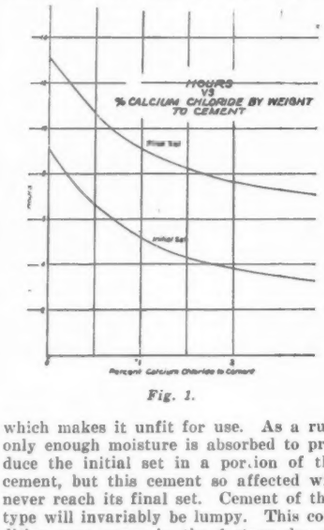


Fig. 1.

which makes it unfit for use. As a rule only enough moisture is absorbed to produce the initial set in a portion of the cement, but this cement so affected will never reach its final set. Cement of this type will invariably be lumpy. This condition may occur in the factory due to milling or sacking when there is considerable moisture in the air, caused by rain, fog, etc. Operators should refuse to use cement of this type and make certain that this cannot occur in field storage. This rarely happens in modern factory and field practice, but instances have come to the attention of the authors.

Cement Accelerator

Accelerators are used to hasten the set of cement in many jobs. The reduction of down time for cementing means less loss of current oil production, and a decrease in idle time and overhead charges. Many operators are therefore using accelerators on all their cement jobs. The primary constituent of the present trade accelerators is calcium chloride. The effect of calcium chloride is chiefly the reduction in the time of initial and final set. Figure 1 shows the effect of calcium chloride on the initial and final set of cement. The values of initial and final sets measured by an improvised method are not "standard" values. The results were, however, uniform among themselves and show clearly the results of adding an accelerator.

Calcium chloride is extremely soluble in water and the accelerators or "hardeners" now being sold are solutions of calcium chloride in water. An analysis of several of these solutions has shown the presence of ordinary salt, and, in some instances, a small amount of caustic. The latter was added either as lime or caustic to render the solution alkaline and thus reduce the corrosive tendency of calcium chloride solutions. Figure 1 shows that the acceleration of initial and final sets varies as the percentage of calcium chloride increases. Figure 2 presents the results of analysis of six commercial accelerators both in terms of specific gravity and of percentage calcium chloride content. These commercial solutions vary in calcium chloride content from 15.5 to 40 per cent and are sold by the gallon. The prices quoted per gallon are such that the actual price of calcium chloride varies several fold.

Figure 1 shows that calcium chloride rapidly lowers the time of initial and final set until about 2 per cent of the cement weight is reached. Further addition of calcium chloride produces little additional lowering of initial and final set and a recommendation of 2 per cent added calcium chloride is made. The addition of excessive amounts of calcium chloride is to be avoided as the strength of the cement will be lessened. Combining the above recommendations from Figure 1 and the results shown in Figure 2, we develop Figure 3. Figure 3 shows the amount of solution at any density which will contain 2 pounds of calcium chloride which is approximately 2 per cent of the weight of a sack of cement. This chart will serve as a guide as to the amount of various accelerators to be used for uniform results.

Effect of Saline Water on Setting

Experiments were performed in the laboratory to determine the effect of saline oil well waters on the setting times of cement. These experiments were suggested by Charles Geddes, drilling superintendent, Marland Oil Co. of Texas.

The cements used were a good grade Portland cement and a special well cement. The accelerator used had a specific gravity of 1.4 and a calcium chloride percentage of 40 per cent or 4.66 pounds per gallon. Fresh water used was ordinary tap water. Saline water used was a typical bottom water from the Panhandle Field and contained 15 per cent sodium chloride and other salts in small proportions. The mixes were made up by weight and the fresh water used was 40 per cent of the weight of dry cement. The volume of salt water used was the same as the fresh water. Accelerator, when used, was slightly over 2 per cent of the weight of dry cement. The setting times were taken by standard Gilmore needles. Samples were prepared and setting times taken with the samples exposed to air. The results given in Table 1, Series 1 and 2 and plotted in Figure 4 are the average of three runs.

These experiments were repeated, pouring the neat cement mix into a hole formed in sand saturated with saline water. A mix of 50 per cent water was also tested under these conditions. The times measured are accurate only to within 15 minutes because the sur-

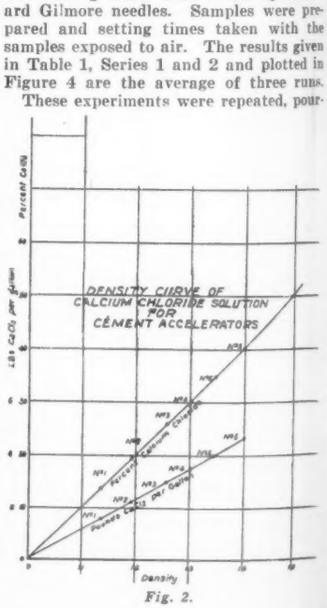


Fig. 2.

*Courtesy of the Production Engineering Department, Marland Oil Co. of Texas.

face of the cement was covered with water. These are summarized in Table 1, Series 3 and Figure 4. In no case was there any failure of the cement to set to a firm hard mass. The difference in the setting time was approximately the same as Series 2 but show a small general increase.

Setting Times

In order to give the saline water a greater opportunity to come in contact with the cement, a mold was made of screen wire and next used to hold the cement slurry. The cement was surrounded and covered by saline water. The setting times are given in Table 1, Series 4 and closely correspond to the results of Series 3 but show an added increase in setting times.

From the data presented in Table 1 it is apparent that as long as cement is allowed to remain in a compact mass and is not mixed with a large amount of water, setting will occur, even though the water be high in salt content.

While the slurries of Series 4 were being poured it was noticed that a small portion of the cement became mixed with and was suspended in the surrounding saline water. This suspended cement gradually settled out. The suspended cement from the fresh water mixes did not set when settled but remained as a sludge in the bottom of the container. The suspended cement from the saline water mixes settled and reached a set.

TABLE 1—EFFECT OF SALINE WATER ON THE SETTING TIME OF CEMENT

Mixing water—	Pct. Cacl. 2 to cement	Initial Set	Final Set
Portland Cement			
Series 1:			
40 per cent Fresh	2+	3 hrs. 54 min.	5 hrs. 18 min.
40 per cent Saline	2+	5 hrs. 47 min.	7 hrs. 45 min.
40 per cent Fresh	0	7 hrs. 1 min.	13 hrs. 2 min.
40 per cent Saline	0	7 hrs. 5 min.	11 hrs. 40 min.
Special Oil Well Cement			
Series 2:			
40 per cent Fresh	2+	3 hrs. 32 min.	4 hrs. 40 min.
40 per cent Saline	2+	4 hrs. 13 min.	6 hrs. 42 min.
40 per cent Fresh	0	5 hrs. 36 min.	10 hrs. 5 min.
40 per cent Saline	0	6 hrs. 32 min.	9 hrs. 45 min.
Special Oil Well Cement—In Sand Molds			
Series 3:			
40 per cent Fresh in Saline	0	6 hrs.	10 hrs.
40 per cent Saline in Saline	0	7 hrs.	10 hrs. 30 min.
50 per cent Fresh in Saline	0	7 hrs. 30 min.	12 hrs.
50 per cent Saline in Saline	0	9 hrs.	13 hrs.
Special Oil Well Cement—In Wire Molds			
Series 4:			
40 per cent Fresh in Saline	0	6 hrs. 15 min.	10 hrs. 30 min.
40 per cent Saline in Saline	0	7 hrs. 30 min.	11 hrs.
50 per cent Fresh in Saline	0	7 hrs. 45 min.	12 hrs. 30 min.
50 per cent Saline in Saline	0	9 hrs. 45 min.	14 hrs.

Making Slurries

To further investigate this, slurries were made up of cement with fresh and saline waters. These slurries were then poured into a container of saline water in such a manner that the cement became mixed with a large amount of water and had to settle from suspension to a mass at the bottom of the container. The results are tabulated in Table 2, and show that when cement mixes are mixed with large amounts of saline water, over twice as much cement-saline water mix will set than cement-fresh water mix and that the initial and final sets are correspondingly

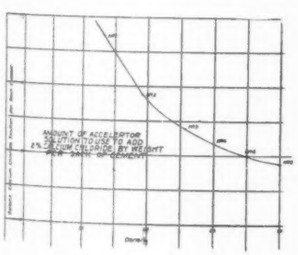


Fig. 3.

reached in half the time. When cementing bottom hole water by the dump bailer method, the actual conditions approximate the above experimental conditions in as much as considerable mixing of well water and cement slurry will occur. In instances of this sort, it will be advisable to bail water from the well and use this water for mixing the cement. Accelerator will also hasten the time of setting, and it is recommended that 1.5 pounds calcium chloride per sack be used for this type of work. The greatest objection to the use of saline waters for the preparation of a cement slurry is that the strength of the final cement is 10 to 50 per cent less than a cement made with fresh water and allowed to set under ideal conditions. However, ideal conditions do not exist in bottom hole cementing and the assurance of a job is in most cases more important than the strength of the job as very little load is placed on the cement.

Table 2—The Setting of Cement Settling Through Saline Water

	Initial Set hours	Final Set hours	Amount reaching Set
Fresh water	20	30	1/3
Saline water	10	16	3/4

Preparation of the Hole

The preparation of the hole before placing the cement is highly important, and the most difficult step to properly perform in cementing bottom hole water. The hole should be free of mud, sand, and cavings and the walls of the hole should be clean. If the hole is not cleaned of loose material and oil, a bond between the cement and the walls will not form and water will break in around the cement plug gradually eroding the cement and thus causing a failure. Any extra time and effort spent in preparing the hole will result in a greater assurance of a job and, in the average, a lower cost per successful job and less down time for cementing jobs.

Loading the Hole

Cement will not set if agitated. Agitation which destroys the initial set will destroy the final set and the success of the job. All movement at the bottom of the hole must be stopped if success is to result. The movement of gas, oil and water in the hole should be stopped by loading the hole and killing the well with water, or water and oil, or by allowing the well to stand until formation and well pressures are equalized. A certain amount of water at the bottom of the hole is necessary and if oil is used in loading the hole care should be taken to insure against the oil coming in contact with the formation to be cemented.

Mixing and Placing the Cement

The cement mix should be governed by the method of placing the cement. When the cement is placed by pumping through tubing 1 bbl. of water per 7 sacks of cement is advisable. This corresponds to a water content of 60 per cent by weight of the cement. Dump bailer jobs can be performed with 40 to 50 per cent water, or 1 bbl. of water to 8 to 10 sacks of cement. The use of cement shoes with tubing will hold the cement in place and reduce mixing to a minimum. It is not the purpose of this short discussion to balance the merits of various cementing appliances but only to point out the desirable and undesirable conditions for bottom hole cementing. The method of placement of the cement is a matter to be decided by the operator. Care should be taken, however, to place the cement as soon as possible and to prevent the admixture of large amounts of water or any oil with the cement slurry. If solid calcium chloride or if a solution is used to accelerate the set, the accelerator should be thoroughly mixed with the water before making the cement slurry. The use of well water in which the cement is to set for the preparation of the cement slurry will give more as-

CENTRAL PIPE

CENTRAL LINE PIPE

Its quality and uniformity have never been questioned

CENTRAL TUBE COMPANY

General Offices—First National Bank Bldg.

PITTSBURGH, PENNA.

Representatives in the Oil Fields

Mid-Continent: Allen, Sproul & Allen, Burk Burnett Bldg., Fort Worth, Texas.
California: E. C. Saul, Monadnock Bldg., San Francisco, Calif.

DISTRIBUTORS: Taubman Supply Corporation, Tulsa, Oklahoma, and branches; Dunigan Tool & Supply Co., Breckenridge, Texas, and branches; Putnam Supply Company, Putnam, Texas and branches; Petroleum Equipment Co., Los Angeles, California, and branches; American Supply Co., Mexia, Texas; Standard Supply Co., Inc., Wichita Falls, Texas.

The Fulton Duplex Sensitive Vacuum Regulator

We have especially designed this Regulator to serve where it is desirable to maintain atmospheric pressure on a system discharging gases to a line, under light pressure. It acts as a safeguard when used in the vapor lines connected to storage tanks, for the recovery of gases, the purpose being to prevent the pulling of a vacuum. Every gas man who has not yet considered the working principles of this efficient Regulator is urged to write for a copy of our catalogue. All technical information is listed along with prices, etc.

CHAPLIN-FULTON MFG. CO.

28-40 Penn Ave., Pittsburgh, Pa.

Pipe Stills

M. W. KELLOGG CO.

7 Dey Street - New York

Kansas City, Mo. . . . . 700 Baltimore Ave.
San Francisco, Cal. . . . . 444 Market St.
Los Angeles, Cal. . . . 329 Petroleum Sec. Bldg.

NATIONAL PETROLEUM ENGINEERING COMPANY

Engineers & Geologists

TULSA, OKLAHOMA

APPRAISALS
REPORTS-COMMERCIAL & TAX

SURVEYS
ESTIMATES OF OIL RESERVES

AN EXPERIENCED OIL FIELD ORGANIZATION

RYERSON

IMMEDIATE SHIPMENT FROM STOCK

Bars, Plates, Rivets, Tool Steel, Shapes, Sheets, Bolts, Welding Rods, Structurals, Tubes, Wire, Concrete Reinforcing, Rails, Pipe, Turnbuckles, Alloy Steel, Ascoloy, Small Tools, Machine Tools, etc.

Write for the Ryerson Journal and Stock List.

JOSEPH T. RYERSON & SON INC.

Chicago Detroit Milwaukee Buffalo St. Louis New York Cincinnati Cleveland Boston

Tulsa Office: 410 Atlas Life Bldg.

STEEL

Houston Office: D. S. Mair 220 Main Street

Carbondale Refrigeration for Refiners

CARMACO

Design of Complete Wax Plants—Absorption and Compression Refrigerating Machines—Wax Distillate Chilling Machines—High Pressure Filter Presses—Paraffine Wax Sweaters—Heat Exchangers and other Refinery Equipment.

Send for a Copy of our Wax Plant Bulletin

CARBONDALE MACHINE COMPANY—Carbondale, Pa.

District Offices

New York Cleveland Dallas New Orleans Philadelphia Pittsburgh Kansas City Chicago Houston Los Angeles Buffalo Tulsa

the World's Best DETEX

A type for every purpose

WATCHCLOCKS

DETEX WATCHCLOCK CORPORATION

BOSTON-23 BEACH ST. ◆ CHICAGO-4147 RAVENSWOOD AVE. ◆ NEW YORK-76 VARICK ST.

GOULDS

FOR ALL PIPE LINE AND REFINERY SERVICES

BULLETINS ON REQUEST

GOULDS PUMPS, INC.

Seneca Falls, N. Y.

Branches or Agencies in All Principal Cities

PUMPS

surance of a job although the final cement may not be as strong.

Summary

1. High grade portland or special cements should be specified for all oil well cementing.

2. Calcium chloride is the active ingredient in liquid cement accelerators. The use of calcium chloride is recommended when a quick set is desired and the amount recommended is 2 per cent by weight of the cement.

3. Experimental results show that cements will set satisfactorily when mixed with saline water. If the cement slurry will become mixed with large amounts of well water while placing the cement, it is advisable to mix the cement with the

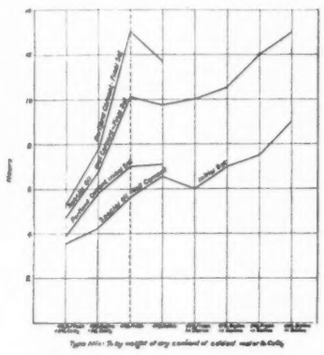


Fig. 4.

well water in which the cement is to set and to use 1.5 pounds calcium chloride per sack of cement.

4. A well shou'd be thoroughly cleaned out before attempting a bottom hole cement job.

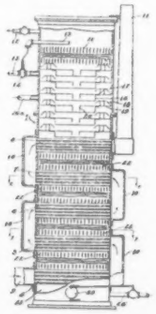
5. All movement of gas, oil and water in the well should be stopped by loading or killing the well before attempting a cement job.

6. Cement should be placed with as little admixture of well water as possible.

7. Most unsuccessful cementing jobs are the result of failure or inability of the operator to properly prepare the well or to handle the cement. Strict adherence to good practice will generally result in a successful job. In this respect, it will prove of great value if the operating head will require a report to be made outlining the reasons for failure when an unsuccessful cement job is performed. These reports will serve as a guide for future reference and thus be of great value. Bottom hole water can be successfully shut off by the use of cement, if the operator will take the precautions of cleaning and loading the hole, properly mixing and placing the cement in the right place, and allowing the cement to stand for at least three days.

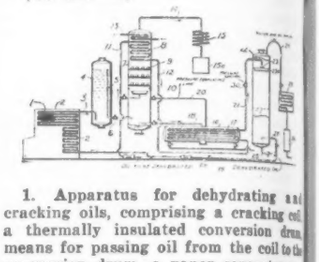
Recent Patents

1,655,998. Counter Flow Still. Forrest E. Gilmore, Los Angeles, Calif. Filed April 23, 1925. Serial No. 25,274. 1 Claim. (Cl. 196—100.)



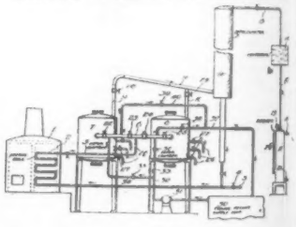
A still for use in refining oil, comprising a vertical shell rectangular in cross section, a plurality of sets of heating pipes horizontally disposed in vertical spaced relation in said shell, baffling material disposed between said sets of heating pipes, a hot gas inlet to the lowermost set of heating pipes, means for passing gases successively through the sets of heating pipes disposed above said lower set, a series of bubbler trays disposed in the upper part of said shell, baffling material above said bubbler trays, a vapor exit from the upper part of the shell, a hot oil inlet entering the shell between said bubbler trays, a cold oil inlet above said hot oil inlet, a thermostatic control for the cold oil inlet and a float controlled oil outlet near the bottom of the shell.

1,656,710. Refining Oils. Edward A. Rudigier, Baltimore, Md., assignor to Standard Oil Development Co., a Corporation of Delaware. Filed March 12, 1925. Serial No. 14,898. 3 Claims. (Cl. 196—5.)



1. Apparatus for dehydrating and cracking oils, comprising a cracking coil, a thermally insulated conversion drum, means for passing oil from the coil to the conversion drum, a vapor separator connected to receive the product from the conversion drum, a heat exchanger receiving hot liquid from the vapor separator, a dehydrating drum, means for passing oil to be dehydrated through the heat exchanger and into the dehydrating drum, and means for passing oil from the dehydrating drum to the cracking coil.

1,655,596. Method and Apparatus for Treating Petroleum Oil. Aubrey R. David, Chicago, Ill., assignor to The Universal Oil Products Co., Chicago, Ill., a corporation of South Dakota. Filed February 14, 1923. Serial No. 619,036. 6 Claims. (Cl. 196—58.)



1. In an apparatus for treating oil, the combination with means for heating the oil of alternate vaporizing means, separate transfer and vapor lines connected thereto, means interposed in the transfer and vapor lines for isolating either of the vaporizing means from the system, means for introducing a cooling medium into either of the transfer lines communicating with an isolated vaporizing means during the period it is cut out of the system.

COMMISSION REPORTS ON PANHANDLE PRICE

(Continued from Page 146)

ferential at which Panhandle crude will move in competition with crude from the older fields were given by one of the large refining companies in effect as follows:

1. Panhandle crude of high sulphur content is worth less to the refiner than crude of similar gravity free of this objectionable sulphur.

2. Refiners disagree as to the amount of this differential but based on present value of products it is estimated to be approximately 35 cents a barrel. In addition to the sulphur content affecting the value Panhandle crude must stand today the relatively higher rail cost of transportation.

3. A market for this particular quality of crude must be created and can only be created on a price basis which will induce refiners to crun crude of high sulphur content in place of the crude they are now running.

NUMBER OF PRODUCTS OBTAINED FROM CRUDE

(Continued from Page 138)

it may be distributed for use in stoves or lighting systems.

Normal natural gas contains a large percentage of methane, composed of one part carbon united with four parts hydrogen or CH_4. Chemists have converted this to methyl alcohol, CH_3OH, to chloroform, $CHCl_3$, and to carbon tetrachloride, CCl_4. Methyl alcohol is used as a solvent in the preparation of varnish, chloroform is a valued anesthetic and carbon tetrachloride is a fire extinguisher. There are other substances found in natural gas; such as ethane, propane and butane, which may be converted to various alcohols, acids and other substances. These are only examples of what has been done and to suggest that the products of natural gas may be expected to increase in number and variety.

Synthetic Compounds

The manufacture of synthetic compounds from natural gas and from petroleum is a field that has not been more than touched. The kind of compounds which predominates in petroleum are quite unlike the multitude of substances that have been prepared from coal tar. Most of the coal tar products are solid, or easily converted into solid substances. The substances separated from petroleum are largely liquid, and many of them quite volatile under ordinary conditions. This physical condition has made it easier to obtain products such as artificial indigo, alizarine, and napthalene from coal tar. While liquids are much more difficult to separate, great progress is being made in the study of the character of petroleum compounds. The countless number of products obtained from coal tar during the past 50 years has at the same time furnished methods which now enable us to investigate petroleum hydrocarbons.

The separation of the major products from petroleum depends upon the kind of crude oil and the completeness of the refining equipment. A few years ago there were many refineries which confined their operations to the manufacture of only four products known as gasoline, kerosene, gas oil and fuel oil. There were a few crude oils which produced only two products; a small quantity of gasoline and fuel oil. However, with advancing demands from the consuming market the talents of the investigators combined with the skill of the refineries have resulted in an almost complete revolution in methods of separation. The number of products now made by some of the modern refineries is almost beyond computation.

Burner Distillate

The principal products above mentioned are now skillfully divided and purified, so that several grades each of gasoline and kerosene are obtainable. The gas oil is divided into numerous products, the most important of which is known as burner distillate, a high quality fuel oil for domestic heating. Many petroleums yield lubricating oils and waxes which were formerly not separated from the fuel oil. The lubricating oil fraction is now refined so that many kinds of lubricating oils are made for the lubrication of the wrist watch, the locomotive, the automobile, the stone crusher and every kind of machine. Lubricating oils are especially prepared, rendered odorless and tasteless, which are extensively used in medicine for the lubrication of the digestive system. This oil is finding a popular demand as a non-fat producing food and is especially adapted for the preparation of salad dressings. Indeed an artificial ice cream has been made, a large part of which was petroleum products. The petroleum hydrocarbons have not yielded true foods, but there are indications of success in the efforts which have been made for making products closely related to the fats. Petroleum has been made from certain animal fats; consequently, we may be successful, long before the petroleum sands are exhausted, in the actual commercial synthesis of petroleum itself.

During the Great War, the base material for the manufacture of the powerful explosive TNT, trinitrotoluene, was prepared from petroleum. There are several crudes which, because of their peculiar composition, are suitable for the preparation of this explosive. The ordinary compounds in many oils are converted, by means of the cracking process, to substances from which TNT may be made. Skelly Oil Co. has large holdings in Arkansas from which is produced an oil suitable for making explosives of this class. Closely related to explosives, in the matter of chemical composition, there are the coloring compounds and dyes. Our laboratories at El Dorado have produced a brilliant emerald green gasoline, and this with but slight change in operation without the addition of foreign coloring matter.

Many dye bases are at the present time derived from coal, but the fact that several similar bodies have been recognized in petroleum suggests great possibilities. Some dyes have been made from petroleum residues. The conversion of some parts of the petroleum into the chemicals benzol, toluol and xylol, and the actual presence of these in crude oil is a fact which lays the foundation and furnishes the materials from which may be built countless dyestuffs, medicines, perfumes, and that extremely sweet substance saccharin, 700 times sweeter than sugar. Indeed we cannot say that some day the petroleum molecule will not be the raw material for the manufacture of artificial sugar.

Ethylene may be made from both natural gas and petroleum. This gas is better than acetylene for making a hot flame for cutting and welding iron. It will ripen fruit in a few hours. Green fruit may be removed from the trees weeks before the sunshine would bring it to maturity, placed in a chamber filled with ethylene and after several hours be ready for the market. It is an anesthetic considered superior to ether and chloroform.

Camphor, turpentine and rubber are valuable products now obtained from trees. Turpentine serves as the starting point for making artificial camphor, and the cost for marketing the natural camphor against the cost for producing the synthetic product is almost in balance. Also turpentine may be converted into rubber. Petroleum has been made to yield turpentine, therefore all three of these valuable articles can be produced from petroleum. It has been estimated that 52,000,000 bbls. of petroleum, if converted without loss into rubber, would yield 4,000,000,000 pounds.

Lower Fractions

The lower fractions of petroleum contain waxes and resins. The manufacture of candles and chewing gum from paraffin wax is well known. The resins, or gums, are used for making roofing, insulating materials, and artificial leather.

Dr. James F. Morris, Massachusetts Institute of Technology, has described a ride into the country in a car running with synthetized no-knock fuel. The oil is right, the lacquer is brilliant, the tires are sturdy—all from petroleum. The artificial leather and the instrument board are petroleum products. He sees petroleum explosives aiding in widening the road. The exhilarating drink and the ice cream at the drug store are petroleum made. There are some of the newer drugs—something to give additional vim, or a soporific to quiet the nerves, diabetes remedy, antiseptics, grease removers and internal lubricants—all from petroleum on the shelves. The floor covering in the car is from petroleum. He passes a hospital and thinks of the wonderful new petroleum anesthetic. Upon returning home he might have spent the evening under a propane light while reading that Seminole needs a Volstead.

GROWTH OF BUSES

At the beginning of 1928 buses in use in the United States totaled 85,636 against 79,806 a year ago and 40,000 five years ago, according to the annual survey of the industry by "Bus Transportation." There has been a steady gain in buses operated by electric railways and steam railroads.

DART UNIONS AND FLANGES

Two Bronze Seats

May we send you sample to try on your most troublesome line? It is absolutely free. Write today for catalogue "O."

E. M. DART MFG. CO., Providence, R. I.

The Fairbanks Co., Distributors

CHAMPION OF THE WORLD!

HOUGH SEAMLESS STEEL WORKING BARREL

THE CHARLES N. HOUGH MFG. CO.
Franklin, Penna.

W. TARKINGTON, Sales Representative, 1724 Ruth Street, Houston, Texas

C. O. SHUMAKER, Sales Representative, 1143 South Xanthus St., Tulsa, Okla.

Products That Cut Down Your Underground Overhead

There is Over 1,000,000 Feet of

JONES

A. P. I. SPECIFICATION
SUCKER RODS

Now in Use

"HIGH MANGANESE"
RODS

Made in Both Box and Pin and Double-Pin Types

S. M. JONES COMPANY

TOLEDO, OHIO
Tulsa Office: 602 Wright Bldg.

A Meter for Every Kind of Service

EMCO - IRONCLAD WESTINGHOUSE

GAS METERS

Also manufacturers of Gas Regulators

PITTSBURGH EQUITABLE METER CO.
PITTSBURGH, PA.

Simplex Emergency Jack No. 310

No. 310—Capacity 15 tons
Single acting—automatic lowering

No. 310 is known as the Jack of a hundred uses. A standby in every oil field. Operates at any angle or vertically.

Built with drop forged steel working parts and furnished with five foot steel chain—steel auxiliary claw and steel level bar.

Unsurpassed for extricating stalled motor trucks—jacking steam engines—raising and setting boilers, raising sand reels and casing sills, skidding rigs and moving tanks and heavy machinery.

Templeton, Kenly & Co., Ltd.
Established 1899
Sole Manufacturers of the Simplex Jacks
Chicago, Ill., U.S.A.

Simplex Jacks are extensively imitated but they never have been equaled in man-power, simplicity, stability or safety.

At Your Supply House

Coastal Wells Drop Sharply During 1927 In Daily Averages

By Nell Williams

HOUSTON, Tex., Feb. 6.—Although there were 147 more producing wells in the Texas and Louisiana coastal territory on January 1, 1928, than on the corresponding day of the previous year the daily average production dropped 47,382 bbls. to a total of only 133,604 bbls. With this drop the average production per well on the first of this year was only 58.6 bbls. as against 85.1.

Included in the total of 2,277 producing wells on January 1, 1928, was a substantial increase in South Louisiana where an extensive play has been given in the search for new oil. The Spindletop Field of Jefferson County, Texas, Pierce Junction of Harris County and Blue Ridge of Fort Bend County were among other districts to add to the number of producers.

However, the natural decline in old wells and old fie'ds much more than offset the production of the wells brought in, which accounted for the sharp drop in total daily average production the first of this year as compared with that of the same day of the previous year. Spind'etop alone suffered a loss of 44,723 bbls. in the daily output. This was despite the extensive play given the south and southwestern flankdeep sand production.

Producing wells and the output on January 1 were:

	No. of Wells	Prod.
Spindletop	147	51,677
Saratoga	250	1,065
Batson	291	1,205
Goose Creek	80	7,248
Sour Lake	300	3,933
Hull	296	13,050
Big Creek	29	2,043
Columbia	86	8,664
Humble	118	1,900
Pierce Junction	43	11,823
Blue Ridge	38	3,931
Markham	17	181
Orange	118	3,947
Damon Mound	35	885
Dayton	14	440
South Liberty	65	2,206
High Island	5	190
Moores Field (Orchard)	2	50
Boling	21	2,071
Nash	14	1,364
Barbers Hill	15	1,051
Vinton	142	4,622
Starks	3	352
Edgerly	38	2,278
Evangeline	65	1,097
Lockport	27	5,280
Miscellaneous	18	1,051
Total January 1, 1928	2,277	133,604
Total January 1, 1927	2,130	181,348
Difference	147	47,382
Southwest Texas		
Somerset	157	450
Lytton Springs	284	1,600
Dale	14	304
Luling	550	14,285
Laredo	700	6,813
Kingsville	9	450
Total January 1, 1928	1,714	23,902
Total January 1, 1927	1,627	40,275
Difference	87	16,373
East Central Texas		
Mexia	360	8,350
Cedar Creek	10	950
Nigger Creek	28	1,015
Wortham	170	2,230
Currie	46	575
Richland	71	700
Powell	660	13,000
Total January 1, 1928	1,345	26,820
Total January 1, 1927	1,670	47,844
Difference	325	21,024

ENGINEERS' MEETING

At a meeting of the Mid-Continent section of the American Institute of Mining and Metallurgical Engineers, held in Tulsa, February 2, Charles V. Millikan, petroleum engineer of the Amerada Petroleum Corp, was elected president, succeeding A. W. Ambrose of the Empire Gas & Fuel Co.

A discussion of the economics of the air-gas lift was another feature of the meeting. This discussion was general, and embraced every phase of the lift method of producing oil.

CHECKING PROPERTIES

SHREVEPORT, La., Feb. 4.—R. S. Sloan, of New York, and C. C. Julian, of Bartlesville, Okla., of the Cities Service Co., and Empire Gas & Fuel Co., respectively, are here in connection with the transfer to the Doherty interests of the Arkansas Natural Gas Co., Arkansas Fuel Oil Co., and the gas properties of the Southwestern Gas & Electric Co., pursuant to recent agreement on merger through cash and stock transfer of the properties with the Empire's holdings in Louisiana and Arkansas. Their work here, it was stated, is largely investigation of titles, etc.

LEGAL

SALE OF OIL AND GAS LEASES DEPARTMENT OF THE INTERIOR
Shreveport, Louisiana

Notice is hereby given that the following described lands in eight units in the known geologic structure of the Monroe Gas Field, Louisiana, are offered for lease under Section 17 of the act of February 25, 1920 (41 Stat., 437), at the customary sliding scale of 12½ to 33⅓ per cent of the quantity or value of the oil produced, of 12½ to 16⅔ per cent of the value of the gas produced and of 16⅔ per cent of the value of the natural-gas gasoline produced from each unit in accordance with the royalty schedule in the regular lease form, and the rental as required by Section 17 of the said act:

Unit No. 1.
T. 18 N., R. 4 E., Sec. 24, Lot 3, 9.24 acres.

Unit No. 2.
T. 19 N., R. 4 E., Sec. 8, NE¼ of NE¼, 40.00 acres.

Unit No. 3.
T. 19 N., R. 4 E., Sec. 30, Lots 1, 2, SE¼ NW¼, 106.70 acres.

Unit No. 4.
T. 19 N., R., 5 E., Sec. 10, SE¼ of SE¼, 39.82 acres.
T. 20 N., R. 5 E., Sec. 34, SE¼ of SE¼, 40.07 acres.

Unit No. 5.
T. 19 N., R. 5 E., Sec. 18, S½ of NW¼, Sec. 20, SW¼ of NW¼, Sec. 30, SW¼ of SE¼, 160.47 acres.

Unit No. 6.
T. 20 N., R. 3 E., Sec. 36, Lot 4, 15.80 acres.
T. 20 N., R. 4 E., Sec. 7, NW¼ of SW¼, 39.99 acres.

Unit No. 7.
T. 20 N., R. 4 E., Sec. 1, SE¼ of NW¼, Sec. 13, NW¼ of NE¼, 74.33 acres.

Unit No. 8.
T. 21 N., R. 5 E., Sec. 20, Lot 1; Sec. 29, NE¼ of SW¼; Sec. 33, Lots 2, 3, 4, 124.84 acres; all Louisiana Meridian, Louisiana, total, 651.26 acres.

The units are to be offered separately and are to be so considered as a basis for the payment of royalty, but any lessee may acquire two or more of the units in which the combined acreage does not exceed 640 acres.

The lands are offered for lease subject to the drilling of offset wells by the lessee first on lands adjacent to tracts on which commercial production of gas has been demonstrated, such drilling operations to be initiated within ninety days after the delivery of the executed lease, each succeeding well thereafter as required to be drilled by the terms of the lease shall be spudded in within ninety days of the completion of the drilling well, all drilling operations to be in conformity with the laws of the State of Louisiana and to be continuously and diligently prosecuted in accordance with the Federal oil and gas regulations.

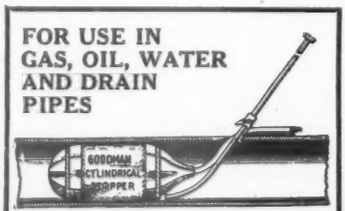
Said leases will be offered for sale by public auction at the Federal Court Room, Shreveport, Louisiana, at 10 a. m., on February 27, 1928. The successful bidder must deposit on the date of sale, with the officer in charge of the sale certified check on a solvent bank, or cash, for one-fifth of the amount bid by him, and file the showing of qualifications to receive a lease required by Sec. 15 of said regulations.

Bidders are warned against violations of the provisions of Sec. 59, U. S. Criminal Code, approved March 4, 1909, prohibiting unlawful combination or intimidation of bidders.

The right is reserved to reject any and all bids in the discretion of the Secretary of the Interior.

JAMES W. NEAL,
Officer in Charge.

FOR USE IN GAS, OIL, WATER AND DRAIN PIPES



Safety Gas Main Stopper Co.
523 Atlantic Ave.,
Brooklyn, N. Y.

Old Timer Says—

"Parmaco Multi-Cone Expanding

Packers

are fine for shutting in gas wells where oversize hole or soft formation exists."

Get a Parmaco
and be safe.

Write for Catalog.

PARKERSBURG MACHINE CO.

PARKERSBURG, W. VA.

"The House of Courteous Service"

Carries All He Needs

Maywood, Ill.
January 27, 1928.

The Oil and Gas Journal,
Tulsa, Okla.

Enclosed please find money order as payment for subscription.

We are very much pleased to renew same and have dropped two other publications of inferior quality because your publication carries all the information we need. We are interested in drilling operations in the Panhandle of Texas, the Seven Lakes district (McKinley County), New Mexico, and Torrance County, New Mexico.

Yours for service,
CHARLES H. SKOPNIK,
111 So. 11th Avenue,
Maywood, Illinois.

Keep in Touch by Using This Coupon

ORDER BLANK

The Oil and Gas Journal, Tulsa, Okla.

You are hereby directed to mail The Oil and Gas Journal to me for .....year. Enclosed find remittance $.....

Classify my interests as checked by me.

.....Producing .....Refining
.....Equipment .....Marketing
.....Transportation

Name .....
Address .....
City .....

U. S. OR MEXICO	
One Year	$6.00
Six Months	3.00
Three Months	2.00
FOREIGN	7.00

Detailed Operations in All Fields for Month of January

SUMMARY OF ALL FIELDS

Field—	Comp.	Prod.	Dry	Gas
Oklahoma	309	41,625	99	63
Kansas	137	14,337	47	11
West Texas	82	336,862	14	1
Texas Panhandle	18	6,690	1	5
North Central Texas	179	7,813	83	9
East Central Texas	4	125	3	0
Southwest Texas	41	980	25	8
Gulf Coast	90	36,570	34	1
Louisiana	39	644	17	11
Arkansas	34	2,840	24	2
East Texas	15	15	2	12
Wyoming	9	423	1	1
Colorado	10	663	2	1
New Mexico	7	280	3	2
Montana	11	1,880	4	2
Eastern	252	1,077	84	67
Central Ohio	28	353	7	15
Lima	11	174	1	2
Michigan	1	20	0	0
Illinois	6	59	2	0
Indiana	17	462	3	0
Kentucky	57	1,638	16	1
North Carolina	1	0	1	0
Total January	1,358	455,531	423	214
Total December	1,537	525,159	505	215
Difference	179	69,628	82	1

SUMMARY OF NEW WORK

Field—	Rigs	Drlg.	Total
Oklahoma	138	710	848
Kansas	63	185	248
West Texas	111	319	430
Texas Panhandle	45	126	171
North Central Texas	98	377	476
East Central Texas	0	11	11
Southwest Texas	24	151	175
Gulf Coast	51	165	216
Louisiana	48	123	171
Arkansas	20	48	68
East Texas	6	19	25
Wyoming	20	149	169
Colorado	10	83	93
New Mexico	10	90	100
Utah	1	27	28
Montana	21	73	94
Eastern	89	299	388
Central Ohio	12	57	69
Lima	6	20	26
Michigan	3	10	13
Illinois	1	24	25
Indiana	5	51	56
Kentucky	14	140	154
Tennessee	0	39	39
Mississippi	9	20	29
Alabama	0	7	7
Florida	0	13	13
Total January	806	3,336	4,142
Total December	771	3,418	4,189
Difference	35	82	57

Note—In the following report the Section, Township and Range are given first; then the farm, the owner, the serial number of the well and the initial production of the well. In lines where the Section, Township and Range are missing the wells are located in the Sections, Townships and Ranges which appear next above in the report.

OKLAHOMA FIELDS

Summary of Wells Completed

County—	Comp.	Prod.	Dry	Gas
Carter	7	720	3	0
Creek	20	2,741	4	2
Garfield	4	79	1	0
Grady	17	402	3	11
Kay	17	200	9	7
Muskogee & Wagoner	29	177	17	3
Okfuskee	4	0	1	3
Okmulgee	19	120	8	7
Osage	23	7,409	3	4
Pawnee	6	32	2	2
Pontotoc	20	4,731	2	4
Pottawatomie	10	2,989	2	2
Seminole	60	20,304	16	0
Stephens-Cotton	19	470	9	4
Tulsa	12	52	7	1
Miscellaneous	42	1,199	11	12
Total January	309	41,625	99	63
Total December	393	59,647	92	52
Difference	16	18,022	7	11

Summary of Rigs and Wells Drilling

County—	Rigs	Drg.	Tl.
Carter	7	18	25
Creek	20	62	82
Garfield	0	14	14
Grady	5	27	32
Grant	0	14	14
Kay	9	30	39
Lincoln	1	9	10
Logan	2	26	28
Muskogee and Wagoner	7	32	39
Okfuskee	8	26	34
Okmulgee	10	32	42
Osage	18	64	82
Pawnee	4	12	16
Payne	4	10	14
Pontotoc	1	39	40
Pottawatomie	5	47	52
Seminole	18	135	153
Stephens and Cotton	7	27	34
Tulsa	2	14	16
Miscellaneous	10	72	82
Total January	138	710	848
Total December	153	716	869
Difference	15	6	21

WELLS COMPLETED

CARTER COUNTY

29-1s-2w Ratliff, Magnolia Pet. 2 161
33-1s-2w Choena, Magnolia Pet. 1 384
2-2s-2w Frazier, Roxana Pet. Corp. 1 dry
20-1s-3w Tivis, Magnolia Pet. Corp. 1 .. dry
17-2s-2w James, Magnolia Pet. Corp. 1 .. 130
26-2s-2w Harmon, Magnolia, Pet. Corp. 1 dry
23-1s-3w Crockett, Simpson & Fell 1 .. 145

Wells completed 7
Production 720
Dry 3

CREEK COUNTY

15-15- 8 Barnett, Twin State Oil Co. 1 gas
10-17-10 May, Stover et al 2 100
35-16-10 Froe, Murta & Cole 1 ..... dry
18-14-10 Wolfe, Independent O. & G. Co. 4 650
Harjo, Prod. & Ref. Corp. 5 .. 320
Harjo, Prod. & Ref. Corp. 2 .. 10
25-18-11 Tiger, Kennedy & Horner et al 1 ..... dry
7-19- 9 Tahkaney, Dixie Oil Co. 1 428
36-15- 7 Bigpond, Devonian Oil Co. 5 .. 40
24-19- 8 Knight, Gled Oil Co. 3 50
8-18- 7 Simpson, Silurian Oil Co. 26 .. 4
2-16-11 Newton, Future Dev. Co. 2 .. 80
18-14-10 Harjo, Mid-Continent Pet. Corp. 1 187
10-15- 8 Lewis, F. R. Billingslee et al 2 ..... gas
24-17-10 Bucktrot, Pioneer Pet. Co. 14 .. gas
18-14-10 Dixon, Wilcox O. & G. Co. 4 .. 225
14-19- 8 Miller, Devonian Oil Co. 6 .. dry
24-18-11 Strip, Kennedy & Horner et al 2 10
25-18-11 Strip, Continental Oil Co. 1 .. dry
18-14-10 Wolfe, Independent O. & G. Co. 5 637

Wells completed 20
Production 2,741
Dry 4
Gas 3
Gas production 40,250,000

GARFIELD COUNTY

24-24-3w Stoner, Champlin Ref. Co. 1 dry
25-22-4w Hoy, Sinclair O. & G. Co. 23 .. 65
26-22-4w Wells, Charles E. Knox 1 4
23-22-4w Smithe, Reynolds & Son 1 .. 10

Wells completed 4
Production 79
Dry 1

GRADY COUNTY

35-5-8w McCaughtry, Noble & Westerfelt 4 ..... gas
26-5-8w Farwell, Okla. Gas Utilities Co. 7 ..... gas
8-3-5w R. Horton, Carter Oil Co. 1 .. 107
16-3-5w Smith, Harmon & Cox 4 170
11-5-8w Mahret, Magnolia Pet. Corp. 1 dry
23-5-8w Farwell, Okla. Gas Utilities Corp. 3 ..... gas
26-5-8w McCaughtry Carter Oil Co. 3 .. gas
16-3-5w Burke, Marland Oil Co. 5 .. 125
22-3-5w Nothaf, Carter Oil Co. 2 .. dry
23-5-8w Sanford, Okla. Gas Utilities Corp. 2 ..... gas
35-5-8w Dryden, Okla. Gas Utilities Corp. 5 ..... gas
10-4-8w Ramsey, Magnolia Pet. Corp. 1 dry
14-4-8w Pendley, Harwell et al 3 ..... gas
17-4-6w Tims, Carter Oil Co. 1 ..... gas
27-5-8w Glover, Okla. Nat'l Gas Corp. 3 gas
35-5-8w McCaughtry, Little Nick Oil Co. 3 ..... gas
13-4-8w Woolridge, Com. Dev. Co. 1 .. gas

Wells completed 17
Production 402
Dry 3
Gas 11
Gas production 326,500,000

KAY COUNTY

30-28-1 Koehler, Greer et al 1 ..... dry
4-27-1w Case, Harold Pet. Co. 6 200
2-26-2w Kirwan, Barnsdall & Margay Oil 1 ..... gas
25-29-1w Tickle, Harris & Haun 1-A ... gas
19-29-1 Skein, Greer & Walters 1 ..... dry
20-27-1w Country Club, Wentz Oil Corp. 2 ..... gas
29-27-1w Rembe, Larutan G. & F 3 ..... gas
36-28-1w School land, No. 76, Ivan Otstot et al 2 ..... gas
8-27-1w Harris, Globe O. & R. Co. 1 .. dry
17-29-1 Shimp, Carter Oil & Ona Oil 6 gas
3-28-2w Fruits, Waggoner et al 1 ..... dry
35-28-1w Athey, Blackwell, O. & G. Co. 3 dry
19-28-1 Curry, Fred Morgan 1 ..... gas
32-28-1 Berry, Ingram & Wilson 1 .. dry
19-27-1w Jennings, Comar Oil Co. 1 .. dry
20-27-1w Country Club, Wentz Oil Corp. 2 ..... dry
30-27-1w Woods, The Texas Company 1 dry

Wells completed 17
production 200
Dry 9
Gas 7
Gas production 7,765,000

MUSKOGEE AND WAGONER COUNTIES

22-18-17 Childers, Baldridge et al 1 .. gas
4-17-16 Bright, Ted Ray Oil Co. 3 .. 35
6-14-19 Crittenden, C. B. Crittenden 1 dry
22-18-15 Grayson, E. J. Lambert 2 ..... dry
34-15-18 Townsite, C. M. Bradley 1 .. dry
28-15-16 Beams, Jack Summers 2 ..... dry
28-15-15 Sango, Hillside O. & G. Co. 10 .. 15
31-19-15 Barnet, Elk Drlg. Co. 2 ..... dry
7-18-15 Pressley, Boyd & Hanks 2 .. 20
17-15-17 Warrior, W. R. Sommerville 4 dry
17-15-17 Sango, H. E. Williams 3 30
6-14-19 McDaniel, J. H. Hale et al 1 .. 25
4-13-19 Carver, W. R. Sommerville et al 1 ..... dry
21-18-17 Hosman, J. Chapman 2 ..... dry
Childers, H. D. McCracken 7 dry
22-18-17 Cinda, A. K. Crichton 1 5
18-17-15 Johnson, M. B. Flesher 1 ..... dry
24-15-18 Townlot, Metzger & Fultz 1 .. dry
1-14-17 Sango, Tennessee Six Oil Co. 7 12
11-19-15 Lynch, F. R. Winters 1 ..... dry
29-18-15 McHenry, Bu-Vi-Bar Pet. Corp. 2 15
McHenry, Bu-Vi-Bar Pet. Corp. 3 20
19-15-16 Russell, E. Price 1-A ..... dry
9-15-18 Stidham, J. L. Haner et al 1 .. gas
27-14-16 Cherry, A. Hutchinson 1 ..... dry
7-14-19 Smith, Indian Capital Oil Co. 1 dry
13-17-15 Adkins, D. T. Marr et al 1 ..... dry
35-17-17 Cane, C. R. Cane et al 2 ..... gas
23-16-16 Adams, Peterson & Young 1 dry

Wells completed 29
Production 177
Dry 17
Gas 3
Gas production 12,500,000

OKFUSKEE COUNTY

35-11-11 Tiger, The Texas Co. 2 ..... gas
36-11- 8 Deer, Burke Greis 2 ..... gas
24-11-11 Barnett, E. L. Robinson et al 13 ..... dry
21-10- 9 Dwyer, Schermerhorn et al 1 gas

Wells completed 4
Dry 1
Gas 3
Gas production 60,000,000

OKMULGEE COUNTY

25-16-12 Cooper, M. T. C. Oil Co. 1 ..... gas
29-16-12 Stanley, McCulloch Oil Co. 2 dry
2-15-12 George, Campbell & Beams et al 1 ..... gas
9-15-14 Smith, Sheedy & McBrayer 1 .. gas
14-14-14 Colbert, J. E. Wallace 5 50
22-15-11 Graham, W. F. Epler 1 25
12-14-12 Warren, A. C. Saint et al 1-A .. 20
8-15-13 Jimmy, Kirkland & Son 3 ..... dry
9-15-14 Tucker, T. H. McBrayer et al 1 gas
19-14-11 Bugg, White Eagle O. & R. Co. et al 2 ..... dry
9-15-14 Ware, Carr Peterson 4 ..... gas
36-15-14 Lewis, Casselman & Young 1 dry
6-14-15 Barnett, L. S. Richardson 4 .. dry
20-12-14 Smith, John Aggas 2 ..... dry
13-11-13 Fisher, B. Morgan 1 25
9-15-13 Deer, Transcontinental Oil Co. 2 ..... dry
14-14-14 Colbert, F. D. Misener 2 ..... gas
1-15-14 Curns, W. B. Pine 1-A ..... dry
28-13-13 Stevens, A. G. Hazlett et al 2 .. gas

Wells completed 19
Production 120
Dry 8
Gas 7
Gas production 94,015,970

OSAGE COUNTY

17-27- 6 Phillips Pet. Co. 5 425
34-27- 6 Kewanee O. & G. Co. 6 150
22-25- 7 Geo. Parker 1 15
17-27- 6 Phillips Pet. Co. 4 ..... dry
25-26- 8 City of Pawhuska 21 ..... gas
26-25- 9 Peters Pet. Co. 2 765
33-21-10 Devonian Oil Co. 3 30
28-20-10 Sand Springs Home 109 ..... gas
20-27- 6 The Prairie O. & G. Co. 4 .. 325
5-22-12 T. K. Smith 2 5
34-27- 6 Kewanee O. & G. Co. 7 320
7-27- 9 C. B. Peters 1 ..... dry
3-26- 6 Kewanee O. & G. Co. 8 400
27-25- 9 Sam Sitrin 14 5
7-24- 8 Galt Brown Oil Co. 1 5
33-21-12 Okla. Nat. Gas Corp. 776 ..... gas
17-27- 6 Peters Pet. Corp. 8 1650
Phillips Pet. Co. 3 617
28-27- 6 Gypsy Oil Co. 3 982
3-26- 6 Kewanee O. & G. Co. 7 415
Kewanee O. & G. Co. 9 900
20-25-12 I. T. I. Oil Co. 384 ..... gas
34-27- 6 Kewanee O. & G. Co. 5 405

Wells completed 23
Production 7409
Dry 3
Gas 4
Gas production 5,750,000

PAWNEE COUNTY

33-23-3 Miller, Watchorn O. & G. Co. 4 dry
22-20-9 Sinnett, T. E. Mann et al 1 .. gas
29-20-8 Smelzer, Turner et al 1 7
33-20-9 Pounder, B. Swift 1 ..... gas
16-21-6 School land, Billingslee & 101 Oil 2 ..... dry
15-20-6 Coats, Magnolia Pet. Corp 4 25

Wells completed 6
Production 32
Dry 2
Gas 2
Gas production 5,750,000

PONTOTOU COUNTY

27- 5- 6 Miller, T. P. C. & O. Co. 1 ... dry
17- 5- 8 McElroy, La. O. R. Corp. 3 ... 150
McElroy, W. R. Ramsey 2 ... gas
18- 5- 8 Milner, W. R. Ramsey 4 ... gas
29- 5- 8 Patterson, W. R. Ramsey 1 ... dry
30- 5- 8 Butler, W. R. Ramsey 1-A ... 275
8- 4- 6 Mercer, American O. & R. 1 .. gas
18- 5- 8 Reed, La. O. R. Corp. 1 604
20- 5- 8 Perry, La. O. R. Corp. 1 400
17- 5- 8 McElroy, La. O. R. Corp. 250
McCall, Homaokla Oil Co. 4 ... 257
16- 5- 8 Yoakum, Shaffer O. & R. Co. 4 100
20- 5- 8 Webb, W. R. Ramsey 4 768
Warfle, La. O. R. Co. 5 600
29- 5- 5 Lewis, Jolly-Ogg Oil Co. 1 170
17- 5- 8 Harjo, La. O. R. Corp. 6 307
20- 5- 8 P. Harjo, W. R. Ramsey 2 ... gas
17- 5- 8 McCall, Homaokla Oil Co. 1 150
20- 5- 8 Webb, W. R. Ramsey 5 700
25- 4- 7 Potter, Ada Cement Co. 1 ..... dry

Wells completed 20
Production 4731
Dry 3
Gas 4
Gas production 98,000,000

POTTAWATOMIE COUNTY

4- 9- 5 Cowden, Magnolia Pet. Co. 4 .. dry
9- 9- 5 Watkins, Tidal Oil Co. 4 50
24- 7- 4 Claude, Superior Oil Co. 1 ... gas
22-11- 2 Hollis, Wilcox O. & G. Co. 1.. dry
11- 7- 4 Billington, Magnolia Pet. 2 ... 64
15- 7- 4 Milburn, Atlantic, Independent and Darby Pet. 1 ..... gas
9- 9- 5 Watkins, Tidal Oil Co. 5 310
19- 7- 4 Spangy, Twin State Oil Co. 4 .. 645
Cecil, Gypsy Oil Co. 1 720
Spangy, Twin State Oil Co. 5 .. 1200

Wells completed 10
Production 2989
Dry 2
Gas 2
Gas production 63,000,000

SEMINOLE COUNTY

1- 9- 5 Clark, Shaffer O. & R. Co. 2 .. 477
11- 9- 5 B. Carter, Gypsy Oil Co. 12 .. 992
12- 9- 5 Waucka, Barnsdall Oil Co. 4 .. 313
3- 9- 6 Strothers, Roxana Pet. 4 ... 1421
9- 8- 6 Vanbuskirk, Magnolia Pet. 1.. 575
13- 8- 6 Fay, I. T. I. Oil Co. 7 151
35- 8- 6 Dungan, Prod. & Refra. 2 ..... dry
36- 8- 6 Fish, Carter Oil Co. 3 65
13- 7- 6 Tiger, Snowden & McSweeney 1 100
21-10- 7 Soliman, Gypsy Oil Co. 1 50
1- 9- 5 Sango, Barnsdall Oil Co. 2 ... 3129
Sango, Carter Oil Co. 3 715
10- 9- 5 Wilmott, The Texas Co. 6 200
12- 9- 5 Seay, Magnolia Pet. Co. 7 25
4- 9- 6 Lula, W. B. Pine 1 50
Varnum, Superior Oil Co. 1.. 107
35- 9- 6 Butler, Gypsy Oil Co. 4 250
11- 8- 6 Strothers "D," Pure Oil 7 .. 281
12- 8- 6 Rhoades, Magnolia Pet. 1 678
15- 8- 6 Walker, Carter Oil Co. 2 135
35- 8- 6 Pattey, Amerada Pet. Corp. 3. 850
Dungan, Prod. & Refra. 3 600
2- 7- 6 Cruse, Magnolia Pet. 2 747
3- 9- 5 Edmondson, Magnolia Pet. 2 .. 64
10- 9- 5 Sullivan, Independent O. & G. Co. 5 114
6- 9- 8 Buchner, Jarvis & Holm 1 30
13- 8- 6 Fay, I. T. I. Oil Co. 3 283
Grayson, Tidal Oil Co. 4 870
10- 8- 6 Harber, Prairie O. & G. 5 175
11- 8- 6 Jones, Prairie O. & G. 5 310
35- 8- 6 Pattey, Amerada Pet. Corp. 2 .. dry
Fore, I. T. I. Oil and Phillips Pet. 1 ..... dry
Fore, I. T. I. Oil and Phillips Pet. 2 ..... dry
Pattey, W. B. Pine and Phillips Pet. 1 1021
36- 8- 6 Phoebe "A," I. T. I. Oil Co. 3 .. 180
Wadsworth, Mid-Continent Pet. Corp. 4 ..... dry
2- 9- 5 Bruner, Barnsdall Oil Co. 2 ... 450
12- 9- 5 Seay, Magnolia Pet. Co. 6 130
3- 9- 6 Polly, Sinclair O. & G. 4 30
7- 9- 8 Hill, Independent O. & G. and Amerada Pet. 2 80
12- 8- 6 Smith, Mid-Cont. Pet. Corp. 1 dry
23- 8- 6 Barnett "B," I. T. I. Oil 1 ... 312
35- 8- 6 Pattey, Magnolia Pet. 2 376
36- 8- 6 Fish, Carter Oil Co. 2 376
2- 7- 6 Nitey, Amerada Pet. Corp. 1.. dry
Davis, Independent and White Eagle O. & R. Co. 2 515
27- 7- 6 Manuel, Mid-Cont. Pet. Corp. 1 dry
8- 5- 8 Smith, W. R. Ramsey 1 130
3- 9- 5 Graham, Prairie O. & G. 2 ..... dry
Graham, Prairie O. & G. 5 ..... dry
Graham, Prairie O. & G. 6 ..... dry
2- 9- 5 Kays, Continental Oil Co. 3 .. dry
3- 9- 5 Roger, Amerada Pet. Corp. 3 .. dry
12- 9- 5 Hollins, Sinclair O. & G. 4 ... dry
36- 9- 6 Stephens, Magnolia Pet. Co. 1 dry
9- 8- 6 Bradley, Amerada Pet. Corp. 1 dry
10- 8- 6 Cumsey, Sinclair O. & G. 3 ... 2706
13- 8- 6 Grayson, Atlantic O. P. Co. 4 .. 230
35- 8- 6 Pattey, Gypsy Oil Co. 3 176
11- 7- 6 Jackson, Carter Oil Co. 1 190

Wells completed 61
Production 20304
Dry 14

STEPHENS AND COTTON COUNTIES

27-1s-10w Lindsey, Howe & Leeper 2 30
12-2s-8w Fobb "C," Page et al 2 ..... dry
30-1s-9w Fex-Alsee, Magnolia Pet. Co. 1 .. gas
22-2s-11w Koehler, J. W. Ray 1 ..... dry
11- 2-5w Iserwood, Carter Oil Co. 4 ... dry
27-1s-8w Taliaferro "B," Tom Medlin et al 7 131
8-1s-5w Parker, Magnolia Pet. Co. 1 .. dry
12-2s-8w Massey, Owen & Wood 7 60
24-1s-4w Inacrers, Gilmer Oil Co. 1 ... dry
36- 2-9w School land, Clark & Cowden 1 dry
30- 1-8w Funk, Magnolia Pet. Co. 1 ... 1
7-1s-8w Karrahner, Margay Oil 1 ..... dry
29-1s-8w Blaydes, Clarkson & Smith 1. dry
12-1s-4w Perkins, Humble O. & R. 1 .. 125
13-1s-4w Shields, Schermerhorn Oil Co. et al 1 ..... gas
12-2s-8w Massey, Owen & Wood 8 11
1- 1-9w Ball, Jeffreys et al 1 ..... gas
31- 1-8w Brymer, Smith-Law 6 ..... dry
32-1s-8w Cantrill, Empire O. & R. 9.. gas

Wells completed 19
Production 470
Dry 1
Gas 4
Gas production 96,500,000

TULSA COUNTY

14-19-10 Okla. Oil Co., Holmes et al 1.. dry
23-19-12 Clinton, Posey Short 2 ..... gas
8-16-14 Squire, Transcontinental Oil 2 .. 15
21-19-12 Perry, E. D. Davis et al 3 .... dry
28-19-14 McIntosh, S. F. Mallory et al 1 dry
10-19-10 Strip, The Texas Co. 1 ..... dry
21-19-12 Sango, Jackson & Wise 3 15
8-16-14 Scott, Savoy Oil Co. 3 ..... dry
29-20-13 Ferner, Elco Oil Co. 3 ..... dry
29-21-13 Turner, Chas. B. Creekmore 9 .. 5
15-19-11 Jones, Glidden Oil Corp. 1 10
17-16-14 Scott, Burke & Gibbs 1 ..... dry

Wells completed 12
Production 65
Dry 1
Gas 1
Gas production 250,000

MISCELLANEOUS COUNTIES

Mayes County—
7-19-17 Fewel, Arrowood et al 2 ..... gas

Major County—
4-23-16w Parker, Henry Randou 1 ..... dry

Hughes County—
17- 8-10 Cornelius, Dixie Oil Co. 3 ... gas
20- 8-10 Hampton, Prairie O. & G. 4 .. gas
16- 9- 9 Bruner, McCulloch Oil 1 ..... dry
17- 8-10 Bruner, I. T. I. Oil Co. 1 131

Cherokee County—
36-19-21 Fee, Atkinson et al 1 ..... dry

Bryan County—
26-5s- 7 Marshall, Magnolia Pet. 1 ..... dry

Grant County—
15-27-3w Swaggart, Argo Oil Co. 1 .... gas
22-27-3w Lane, Blackwell O. & G. 4 10

Cleveland County—
7- 9-1w Alexander, Galt Brown Oil 1.. dry

Pittsburg County—
21- 7-17 Featherstone, Quinton Speiter Co. 1 ..... gas

Greer County—
19-7-22w Churney, Magnolia Pet. 1 .... dry

Lincoln County—
31-17- 5 Skinner, Shaffer O. & R. 2 677

Beckham County—
20-9-23w Rosenbaum, Fred Coogan 1 .. gas
21-9-23w Ensley, Rubana Oil Co. 1 .... gas
28-9-23w Poarch, Skelly Oil Co. 1 ..... gas

Caddo County—
5- 5- 9w Cutshall, Moran et al 2 40

Garvin County—
15- 1- 3w Risner, Magnolia Pet. 1 ..... dry

Jefferson County—
23-6s-6w Ryan, Skelly Oil Co. 2 140
23-6s-6w Ryan, Ed Cox 1 ..... dry

Rogers County—
1-21-16 Bryan, Low Riggs 1 45
1-24-16 Lee, A. E. Lynch 1 1
17-24-18 Bloomer, M. O. Davis 1 1
1-24-16 Legate, A. E. Lynch 1 1
13-20-14 Breeden, I. D. Simons et al 2 .. 4
24-22-16 Curry, M. P. Sanderson et al 3 .. 10
Miller, John B. Yall et al 1 1
9-21-17 McElyea, Weber & Qualls O. & G. Co. 4 10
11-21-17 Gum Bros., Hill Bros. 1 ..... gas
Gum Bros., Hill Bros. 2 ..... gas
10-21-17 Pickerman, Hill & Hill 1 1
1-24-16 Legate, A. E. Lynch 2 1

Newata County—
27-25-17 Strickland, P. W. Fusselman 9 .. 1
Strickland, P. W. Fusselman 10 .. 15
36-26-16 Long, Eugene Wilkinson 14 .. dry
Long, Eugene Wilkinson 15 1
4-25-17 Oller, Freinden Bros. 3 ..... gas
Parish, John & C. P. Shertser 14 4
27-25-17 Strickland, P. W. Fusselman 8 .. 12

Washington County—
14-25-13 Cranor, Holmes & Newman 2 ..

Noble County—
15-21-2w Sams, Magnolia Pet. Co. 1 ... dry

Wells completed	42
Production	1199
Dry	11
Gas	12
Gas production	145,405,000

KANSAS FIELDS

Summary of Wells Completed

County—	Comp.	Prod.	Dry	Gas
Anderson	25	1,516	2	1
Butler	7	208	6	0
Cowley	6	15	3	2
Elk	9	160	3	1
Greenwood	25	2,070	8	0
Sumner	13	9,520	4	1
Miscellaneous	47	756	21	6
Total January	137	14,337	47	11
Total December	48	5,800	19	3
Difference	89	8,537	28	8

Summary of Rigs and Wells Drilling

County—	Rigs	Drg.	Ttl.
Butler	6	18	24
Cowley	7	26	33
Chautauqua and Elk	2	7	9
Greenwood	14	29	43
Marion	17	9	26
Sumner	8	34	42
Miscellaneous	9	62	71
Total January	63	185	248
Total December	50	184	234
Difference	13	1	14

WELLS COMPLETED
ANDERSON COUNTY

18-21-20 Crozier, American Controlled Oil Co. 20 ... 175
Crozier, American Controlled Oil Co. 21 ... 20
Babb, American Controlled Oil Co. 17 ... 30
Crozier, American Controlled Oil Co. 22 ... 145
Crozier, American Controlled Oil Co. 18 ... 5
Crozier, American Controlled Oil Co. 19 ... 70
Babb, American Controlled Oil Co. 21 ... 70
Babb, American Controlled Oil Co. 14 ... 25
Babb, American Controlled Oil Co. 15 ... 27
Babb, American Controlled Oil Co. 16 ... 25
Babb, American Controlled Oil Co. 13 ... 78
Babb, American Controlled Oil Co. 18 ... 64
18-21-20 Ewing "B", American Controlled Oil Co. 23 ... 40
18-21-21 Babb, American Controlled Oil Co. 20 ... dry
Ewing "B", American Controlled Oil Co. 24 ... dry
15-21-20 Weiss, O.K.O. O. & G. Co. 11 .. 30
3-22-18 Ewing, W. S. Fees 1 ... gas
18-21-20 Ewing "B", American Controlled Oil Co. 25 ... 55
Ewing "B", American Controlled Oil Co. 26 ... 150
Ewing "B", American Controlled Oil Co. 27 ... 150
Ewing "B", American Controlled Oil Co. 28 ... 110
Ewing "B", American Controlled Oil Co. 29 ... 100
Ewing "B", American Controlled Oil Co. 30 ... 32
Ewing "B", American Controlled Oil Co. 31 ... 85
15-21-20 Weiss, O.K.O. Gas Co. 12 30

Wells completed	25
Production	1516
Dry	2
Gas	1
Gas production	75,000

BUTLER COUNTY

5-27-6 Beedles, Keen et al 1 ... dry
13-27-6 Thompson, White Eagle O. & G. Co. 1 ... dry
1-27-6 Boline, Mid-Kansas Oil Co. 1 .. dry
3-27-6 Lewis, Davis et al 3 ... 300
1-27-6 Dixon, White Eagle O. & R. 1 dry
3-27-6 Leon Bank, Rosenthal et al 1 . dry
27-27-6 Sterns, Cuatro & Blankenship 1 dry

Wells completed	7
Production	300
Dry	6

COWLEY COUNTY

7-32-5 Biddle, Arkansas F. O. Co. 4 .. dry
32-33-4 Adams, Roth & Farout 1 ... gas
29-30-3 Beard, Roxana Pet. Corp. 1 .. dry
23-32-4 Moncrief, Roth & Farout 1 .... gas
Mattison, Kuex Drlg. Co. 1 15
17-33-3 Douthit, Manning et al 1 .... dry

Wells completed	6
Production	15
Dry	3
Gas	2
Gas production	1,462,000

ELK COUNTY

26-29-10 Mullendore, Ohio F. O. Co. 1 dry
34-29-12 Hawkins, Jacqueline Oil Co. 2 20
2-30-9 Denton, Watchorn O. & G. Co. 10 ... 50
30-30-11 Collyer, Pennock Oil Co. 1 .. 50
32-31-10 Mann, Landon et al 1 ... 20
30-30-11 Pirtle, Pennock Oil 1 ... dry
23-31-10 Webb, Jones et al 1 ... 20
35-31-10 Lewis, Denman et al 1 ... gas
12-30-9 Donnall, Conley & Winemiller 1 dry

Wells completed	9
Production	160
Dry	1
Gas	3
Gas production	1,000,000

GREENWOOD COUNTY

32-22-11 Garth, Empire O. & R. Co. 4 .. 60
25-23-11 Schwab, Empire O. & R. Co. 3. 230
36-22-12 Ott "C", Empire O. & R. Co. 1. 135
30-22-13 Lemon, Kanson Oil Corp. 1 ... dry
15-25-13 Kolb, Empire O. & R. Co. 1 ... 25
2-26-10 Mills, Rogers et al 1 ... 25
4-27-11 Mills, McGinnis et al 1 ... 100
11-22-10 Brown, Prairie O. & G. Co. 1.. dry
14-22-11 Duby, Empire O. & R. Co. 18.. 10
25-22-12 Demler, Empire O. & R. Co. 5.. 100
Demler, Empire O. & R. Co. 6.. 300
30-22-13 Perrie, Blankinship Pet. Co. 1. 25
2-26-10 Hull, Paul S. et al 1 ... dry
35-22-13 Schwab, Empire O. & R. Co. 4. 200
11-22- 9 Green, McGinnis et al 5 75
23-22-12 Fankhouser, Theta Oil Co. 3.. 225
26-22-12 Ott "C", Empire O. & R. Co. 2. 50
30-22-13 Schwab, Darby Pet. Co. 4 300
10-25-13 Webber, Empire O. & R. Co. 1. dry
30-22-11 Greenwood, White Eagle O. & R. Co. 1 ... dry
25-22-12 Schwab, Empire O. & R. Co. 6. 150
27-22-12 Wasson, Rhodes & Empire O. & R. Co. 1 ... dry
33-24-10 Welch, White Eagle O. & R. Co. 1 ... dry
12-25-10 Rockhill, Smally & Bement Oil 1 ... dry
10-25-13 Roglin, McCullough et al 1 ... 50

Wells completed	25
Production	2070
Dry	4

SUMNER COUNTY

14-32- 2 Emerich, Roxana Pet. Corp. 4.. 3230
Townsite, Roxana Pet. Corp. 7.. 75
24-32- 2 Nevitt, Phillips Pet. Co. 1 .... dry
11-32- 2 Oxford townsite, Roxana Pet. Corp. 9 ... 75
14-32- 2 Oxford townsite, Derby Oil Co. 2 ... 192
Emerich, Roxana Pet. Corp. 7.. 1809
Oxford townsite, Roxana Pet. Corp. 8 ... 200
Gassoway, Wasson et al 1 2245
9-30-2w Love, Champlin O. & R. Co. 2. gas
25-31- 2 Shore "B", Roxana Pet. Corp. 5 10
35-31- 2 Bussard, Davis & Hazlett 1... dry
14-32- 2 Spence, Derby Oil Co. 1 376
23-32- 2 Wenrich, Barnsdall Oil Co. 1. 400
24-31- 2 Stout, Globe O. & R. Co. 1 .... dry
14-32- 2 Barnes, Edenfield et al 1 .... dry
Buffington, Roxana Pet. 2.... 586
Emerich, Roxana Pet. Corp. 6.. 247
Rothwell "A", Roxana Pet. Corp. 1 ... 75

Wells completed	18
Production	9520
Dry	4
Gas	1
Gas production	4,000,000

MISCELLANEOUS

Coffey County—
11-23-13 Hanner, Sheedy et al 3 20
Marion County—
2-17- 4 Mott, Harwood & Winters 1... dry
Ucker, Harwood & Winters 1 .. 25
23-17- 4 Weston, Lariaux et al 1 125
15-17- 4 McNicols, Harwood & Winters 1 dry
Chase County—
25-18- 6 Lipps, Westfield O. & G. Co. 4. dry
Dickinson County—
24-16- 4 Sherman, Loy et al 1 ..... dry
Lyon County—
17-21-12 Vohs, Tulsa Oil Co. 1 ..... dry
McPherson County—
8-19-2w Clark, Merriman et al 1 ..... dry
Ellsworth County—
9-15-10w Maximer, Valerius & Cheney 1 dry
24-16- 9w Gregory, Phil Mac Oil Co. 1.. dry
Seward County—
3-35-34w Boles, Wilson & Moore 2 .... gas
Chautauqua County—
2-32-10 Julian, Griffeth, Bell et al 1.. gas
Labette County—
26-32-17 Unknown, Arkansas River Gas Co. 1 ... dry
1-32-20 Tumm, Noble Oil Co. 1 ..... dry
33-32-20 Burus, Lilly et al 1 ..... dry
5-35-20 Lips, Wantland et al 1 ..... dry
Logan County—
14-14-33w Andrews, Coon et al 1 ..... dry
Montgomery County—
31-31-14 Faler, Ramler et al 1 ..... dry
35-32-16 Wyberger, Bloom et al 1 ..... dry
29-32-17 Hellum, Earl & Overfield 1 ... dry
35-32-16 Feits, Voise & Tabor 1 ..... gas
12-35-16 Wilson, Tex-O-Kan Oil Co. 1 200
2-34-13 Dunham, J. P. Brady 5 10
Dunham, J. P. Brady 6 10
Partridge, Paul E. Clements 1. 5
7-34- 7 Flaite, A. M. Landon et al 2 .. 20
30-34-16 Crane, J. M. Lemon 1 ..... gas
20-34-17 Davis, Vergate Oil Co. 36 20
Davis, Vergate Oil Co. 35 18
Davis, Vergate Oil Co. 38 ..... dry
Davis, Vergate Oil Co. 37 8
7-34-17 Rainey, Shannon-Marshall & Gerrard 22 ..... gas
Holeman estate, Shannon-Marshall & Gerrard 3 8
Plute, A. M. Landon et al 1 20
17-33-15 Schonberg, Henderson Oil Co. 5 25
2-34-13 Dunham, J. P. Brady 3 5
1-34-13 Brown Land Co., J. P. Brady 5 dry
3-34-13 Dunham, J. P. Brady 4 100
30-34-17 Bunk, Wolf & Brown 1 ..... dry
Neosho County—
27-28-19 Lewis, Bird Oil Co. 1 2
Allen County—
15-24-21 Law, Leonard & Gaitskill 3.... dry
10-26-20 Alderman, N. S. Sibert 1 ..... dry
22-23-18 Keown, L. L. O'Mears 2 10
Franklin County—
26-16-21 Cummings, The Texas Co. 1.. gas
Miami County—
20-18-22 Jenkins, Art Sides 1 5
Russell County—
32-13-15w Baxter, Mid-West Ref. Co. 32. 120

Wells completed	47
Production	756
Dry	21
Gas	6
Gas production	4,025,000

LOUISIANA-ARKANSAS

NORTH LOUISIANA

Summary of Field Operations

	Comp.	Prod.	Dry	*Gas	Rigs	Drg.	Ttl.
Bienville	1	0	1	0	0	3	3
Bossier	2	0	2	0	5	19	24
Caddo	24	625	10	4	12	24	36
Caldwell	0	0	0	0	0	1	1
Catahoula	0	0	0	0	1	1	2
Claiborne	0	0	0	0	1	2	3
DeSoto	2	0	2	0	3	8	11
Franklin	0	0	0	0	0	3	3
Grant	0	0	0	0	1	2	3
LaSalle	0	0	0	0	0	3	3
Madison	0	0	0	0	0	1	1
Monroe district	2	0	0	2	10	14	24
Natchitoches	0	0	0	0	0	1	1
Rapides	0	0	0	0	1	1	2
Red River	0	0	0	0	0	2	2
Richland	3	0	0	3	6	18	24
Sabine	2	19	2	0	2	4	8
Webster	2	0	0	2	5	12	17
West Carroll	0	0	0	0	0	1	1
Winn	0	0	0	0	0	2	2
Total	39	644	17	11	48	123	171
Dec.	67	1,543	19	28	47	121	168
Difference	28	899	2	17	1	2	3

*Gas production: Caddo, 13,300,000; Monroe district (Ouachita Parish), 6,000,000; Richland, 97,132,000; Webster, 36,176,000; total, 152,608,000.

ARKANSAS

Summary of Field Operations

	Comp.	Prod.	Dry	*Gas	Rigs	Drg.	Ttl.
Bradley	0	0	0	0	0	1	1
Clark	0	0	0	0	1	1	2
Clay	0	0	0	0	0	1	1
Cleveland	1	0	1	0	0	0	0
Columbia	0	0	0	0	1	3	4
Drew	1	0	1	0	0	0	0
Faulkner	0	0	0	0	0	1	1
Franklin	0	0	0	0	0	1	1
Garland	0	0	0	0	0	2	2
Grant	0	0	0	0	0	1	1
Hempstead	1	0	1	0	0	0	0
Jackson	0	0	0	0	0	1	1
Lafayette	0	0	0	0	0	1	1
Lincoln	0	0	0	0	0	1	1
Little River	0	0	0	0	0	1	1
Miller	1	0	1	1	0	0	2
Nevada County	1	50	0	0	9	5	14
Ouachita	6	15	4	1	1	2	5
Poinsett	0	0	0	0	0	1	1
Pope	0	0	0	0	0	1	1
Union	23	2,775	16	1	6	23	29
Woodruff	0	0	0	0	0	1	1
Total	34	2,840	24	2	20	48	68
Dec.	22	571	9	4	11	70	81
Difference	12	2,269	15	2	9	22	13

*Gas production: Ouachita County, 4,700,000; Union, 4,000,000; total, 8,700,000.

WELLS COMPLETED
NORTH LOUISIANA
BIENVILLE PARISH

18-16- 5 Haya, Louisiana Pet. Co. 1 .... dry
BOSSIER PARISH
17-23-12 Barnett, Ark. Nat. Gas Co. 1.... dry
21-23-12 Farrington, O'Brien Bros. 1.... dry
CADDO PARISH
11-18-16 Boynton & Croom, Belchic & Laskey 1 ... dry
10-18-16 Croom, Belchic & Laskey 1 ... dry
23-21-15 J. D. Bickham, Bussa & McGoldrick 7 ... 5
23-21-15 Caddo Mineral Lands, Dixie Oil Co. 9 ... 60
14-21-15 Clark, Dixie Oil Co. 9 160
33-22-15 D. A. Huckaby, Dixie Oil Co. 1. dry
7-17-16 Abney, Ferguson et al 2 ..... gas
7-17-16 Abney, Ferguson et al 3 ..... gas
14-21-15 Tyson, Gulf Ref. Co. 14 75
32-18-16 John Furrh, Magnolia Pet. Co. 1 ... jkd
22-20-15 Newton Smith, Rogers & Jensen 1 ... dry
28-21-15 State, Shreveport Oil Corp. 1.. abd
27-21-15 State, Shreveport Oil Corp. 2.. dry
15-20-15 Thomas, Simplex Oil Co. 4 15
22-22-15 Jolly, Standish Oil Co. 1 ..... jkd
27-21-16 Stiles, Standard Oil Co. 191 ... dry
34-21-16 J. J. Hart, Standard Oil Co. 16 80
23-21-15 Caddo Mineral Lands, The Texas Co. 50 ... 50
23-21-15 Caddo Mineral Lands, The Texas Co. 51 ... 50
14-21-15 J. K. Herold, The Texas Co. 10 80
15-21-15 Mabry, The Texas Co. 10 80
18-17-16 Waterman, Lbr. Co., Waterman Brick & Tile Co. 1 ..... gas
39-15-12 Knight, Woodley Pet. Co. 5-B. gas
22-19-14 McVey, Woodley & Collins, 1-A dry

Wells completed	24
Production	625
Gas	4
Gas production	13,300,000
Dry	10

DESOTO PARISH

1-11-16 Frost-Johnson Lbr. Co., Chas. Daniels 1 ... abd
24-14-13 Dickson, J. W. Downey 1 ..... dry
MONROE DISTRICT
5-18- 4 West Virginia Timber Co., Palmer Co., Palmer Corp. 1 ..... gas
5-18- 4 Fee, West Virginia Oil & Gas Co. 5 ... gas

Gas production 6,000,000

RICHLAND PARISH

6-15- 6 Henler, Moody & Seagraves 2-B ... gas
20-18- 8 Sartor, Southern Carbon Co. 1. gas
26-16- 6 Dunning, Stovall Drilling Co. 1 gas

Gas production 97,132,000

SABINE PARISH

32-10-12 Logan, Ark. Fuel Oil Co. 10 ... dry
33-10-13 Logan, Ark. Fuel Oil Co. 1-A.. 19
36-10-13 Logan, S. P. Borden et al 1 .... dry
WEBSTER PARISH
29-23- 9 W. B. Roseberry, Magnolia Pet. Co. 1 ... gas
29-23- 9 Munn, Northwest Louisiana Gas Co. 1 ... gas

Gas production 36,176,000

ARKANSAS

WELLS COMPLETED
CLEVELAND COUNTY

31-10-10 R. Hall, Kingsland Oil Co. 1 .. dry
DREW COUNTY
35-13- 5 Olga, McClintock & Goodka 1.. abd
HEMPSTEAD COUNTY
34-10-26 D. E. Goodlet, Ark. Nat. Gas Co. 1 ... abd
MILLER COUNTY
14-15-26 Saunderson, Guest et al 1 ..... dry
NEVADA COUNTY
6-14-20 William Haynie, J. J. O'Brien 1-B ... 50
OUACHITA COUNTY
22-15-19 Culp, Buffalo Oil Co. 3 15
13-15-19 Berg, Copenhaven et al 3 .... dry
18-12-17 Ponder, W. M. Harrell, trustee, 1 ... dry
3-16-15 Murphy, Humble Oil & Ref. Co. 4 ... gas
4-16-15 Haya, Marine Oil Co. 5-A ..... abd
3-14-18 Chandler estate, J. G. Reynolds 1 ... dry

Wells completed	6
Production	15
Gas	2
Gas production	4,700,000
Dry	4

UNION COUNTY

8-18-12 Garner, Bondurant et al 1 .... dry
8-17-11 Rowland, Booth et al 1 ..... dry
2-17-16 Slaughter, Brown et al 1 .... dry
10-17-14 Garrett-Modisette Drilling Co. et al 1 ... 50
7-18-14 Van Hook, Grimes Bros. 9 65
4-16-15 Murphy, Gulf Ref. Co. 45 ..... abd
21-18-12 Dykes, H. L. Hunt 1 ..... dry
9-16-15 Murphy, Keen & Woolf 6 ..... abd
17-17-12 Lion Oil Ref. Co. 1 ..... dry
26-17-16 Goodwin, Imperial Oil & Gas Products Co. 1 ... dry
8-16-16 B. T. Laney, Magnolia Pet. Co. 3 ... abd
8-16-16 B. T. Laney, Magnolia Pet. Co. 4 ... abd
8-16-15 T. D. Murphy, Magnolia Pet. Co. 8 ... dry
17-16-15 Wilson, Magnolia Pet. Co. 7 ... 30
1-17-14 Crain, Ohio Oil Co. 3 30
1-17-14 Crain, Ohio Oil Co. 5 300
1-17-14 Crain, Ohio Oil Co. 7 2400
2-17-14 H. R. F. Goode, Ohio Oil Co. 1. jkd
2-17-14 R. Pumphrey, Ohio Oil Co. .... gas
2-17-14 R. Pumphrey, Ohio Oil Co. 3 .. dry
13-17-16 Newton, Rice et al 1 ..... dry
2-17-14 Perdue, Roberger Oil Corp. 1.. abd
12-16-12 Houston, E. N. Wood, trustee 2 dry

Wells completed	23
Production	2775
Gas	1
Gas production	4,000,000
Dry	16

EAST TEXAS

Summary of Field Operations

	Comp.	Prod.	Dry	*Gas	Rigs	Drg.	Ttl.
Cass	0	0	0	0	2	2	
Harrison	6	0	1	5	2	8	10
Marion	0	0	0	0	1	1	
Panola	9	15	1	7	4	12	16
Shelby	0	0	0	0	2	2	
Total	15	15	2	12	6	19	25
Dec.	12	34	4	9	9	16	25
Difference	3	19	2	3	3	3	0

*Gas production: Harrison County, 17,000,000; Panola, 24,926,820; total, 41,926,820.

WELLS COMPLETED
HARRISON COUNTY

James Short Survey, Furrh, J. R. Bahan 6 ... gas
James Short Survey, Furrh, C. H. Lyons et al 1 ... dry
James Short Survey, J. A. Pollard, Simms Oil Co. 1 ... gas
W. R. Anderson Survey, Z. Abney, State Line Oil & Gas Co. 3 ... gas
Joel Lipscomb Survey, Timmons, Thomason et al 2 ... gas
W. R. Anderson Survey, J. M. Bryson, A. L. Waller 4 ... gas

Wells completed	8
Gas	8
Gas production	17,000,000
Dry	1

PANOLA COUNTY

W. A. Birdsong Survey, Burns, Bethany Oil & Gas Co. 4 ... gas
B. C. Jordan Survey, Roquemore, S. M. Gardner et al 2 ... gas
B. C. Jordan Survey, Lila Fletcher, Magnolia Pet. Co. 1 ... dry
Jane Thorpe Survey, Jehu Jernigan, Magnolia Pet. Co. 2 ... gas
Benson Lovell Survey, Hernigan & Estes, Magnolia Pet. Co. 1 ... gas
B. C. Jordan Survey, C. G. Steel, Magnolia Pet. Co. 13 ... gas
James Shadoin, J. M. Trosper, Magnolia Pet. Co. 1 ... 15
James Shadoin Survey, J. M. Trosper, Magnolia Pet. Co. 2 ... gas
John Womack Survey, Crenshaw, D. Thomason 2 ... gas

Wells completed	9
Production	15
Gas	7
Gas production	24,926,820
Dry	1

GULF COAST FIELDS

Summary of Field Operations

Field—	Cmp.	Prd.	Dry	Gas	Rgs.	Dig.	Ttl.
Batson	2	255	0	1	3	1	4
Big Creek	2	400	2	0	1	3	4
Boling	2	100	2	0	12	7	20
Blue Ridge	2	4,100	0	0	3	11	14
Barbers Hill	1	110	0	0	0	2	2
Dayton	0	0	0	0	0	1	1
Edgerly (La.)	2	7	1	0	0	5	5
Goose Creek	4	430	0	0	0	8	8
Hull	9	795	5	0	0	13	13
Humble	1	0	1	0	0	0	0
High Island	1	30	0	0	0	5	5
Jennings (La.)	5	140	2	0	1	4	5
Lockport (La.)	3	250	1	0	3	3	6
Markham	5	125	0	0	0	0	0
Nash	2	0	2	0	0	4	4
Orange	5	4,915	0	0	0	7	7
Orchard	1	800	0	0	0	1	1
Pierce Jctn.	5	3,500	0	0	5	14	19
Saratoga	1	0	1	0	0	1	1
Sour Lake	1	140	0	0	1	3	4
Spindletop	15	18,440	2	0	3	20	23
S. Liberty	1	200	0	0	3	1	4
Starks	1	0	1	0	0	1	1
Virden	0	0	0	0	0	4	4
W. Columbia	0	0	0	0	0	1	1
Miscellaneous	18	1,830	15	0	16	44	60
Ttl. Jan.	90	36,570	34	1	81	165	246
Ttl. Dec.	113	29,351	40	1	64	165	229
Difference	23	7,179	26	0	13	0	13

GULF COAST
WELLS COMPLETED
BATSON—HARDIN COUNTY

McGoldrick, Adabel Oil 117 ... 5
Hodges, Capitol Oil 9 ... 250

Wells completed	2
Production	255

BIG CREEK—FORT BEND COUNTY

Davis, Gulf Prod. Co. 34 ... 400
Davis, Gulf Prod. Co. 44 ... dry

Wells completed	2
Production	400
Dry	1

BOLING—FORT BEND AND WHARTON

Abendroth, Gulf Prod. Co. 3 ... 100
Chase, Gulf Prod. Co. 2 ... dry
Kasparek, Sun Oil Co. 1 ... dry

Wells completed	3
Production	100
Dry	2

BLUE RIDGE—FORT BEND COUNTY

Blakely, H. R. Cullen et al 1 ... 2000
West Schenck, Gulf Prod. Co. 13 ... 100
Robinson, Navarro Oil Co. 4-A ... 2000

Wells completed	3
Production	4100

BARBERS HILL—CHAMBERS COUNTY
Meyers, Humble O. & R. Co. 5 110
EDGERLY—CALCASIEU PARISH
Lillard, C. M. Crotty Oil Co. 7 7
Ecker, Rex Pet. Co. 1 ..... dry

Wells completed 2
Production 7
Dry 1
GOOSE CREEK—HARRIS COUNTY
Hoffman-Gaillard, Gulf Prod. Co. 18 ... 150
Wright, Gulf Prod. Co. 21-A 25
Ashbel Smith, Humble O. & R. Co. 4 ... 175
Grace Addey, Port City Oil Co. 1 80

Wells completed 4
Production 430
HULL—LIBERTY COUNTY
Phoenix, Gulf Prod. Co. 77, 48 500
Phoenix, Gulf Prod. Co. 87 ..... dry
Thomas, Gulf Prod. Co. 11 ..... dry
Harrison, Hull Oil Co. 7 ..... dry
Merchant, Orange Pet. Corp. 4 ..... dry
Dolbear, Republic Prod. Co. 23 100
Dolbear, Republic Prod. Co. 39 159
Dolbear, Republic Prod. Co. 89 ..... dry
Hannah fee, The Texas Co. 2 39

Wells completed 9
Production 798
Dry 5
HUMBLE—HARRIS COUNTY
Hirsch, Dunbar Oil Co. 1 ..... dry
HIGH ISLAND—GALVESTON COUNTY
Cade, McLean Oil Co. 11 30
JENNINGS—ACADIA PARISH
Cline, Evangeline Oil Co. 1 ..... dry
Jennings-Heywood, Port City Oil Co. 6 . 70
Valle Arpent, Salt Dome Oil Co. 1 50
Latrielle, The Texas Co. 2-B 20
Latrielle, The Texas Co. 106-A ..... dry

Wells completed 5
Production 140
Dry 2
LOCKPORT—CALCASIEU PARISH
Prieber & Wolf, Vacuum Oil-Gulf Ref. 2 dry
Miller, Vacuum Oil-Gulf Ref. Co. 19 ... 150
Farquahar, Vacuum Oil-Gulf Ref. 3-A .. 100

Wells completed 3
Production 250
Dry 1
MARKHAM—MATAGORDA COUNTY
Kountze-Rycade Oil-Humble O. & R. 5 .. 125
NASH DOME—FORT BEND COUNTY
Wisdom, Rycade Oil Corp. 19 ..... dry
Wisdom, Rycade Oil Corp. 20 ..... dry

Wells completed 2
Production 0
Dry 2
ORANGE—ORANGE COUNTY
McLean-Brownie-Babbett Oil Co. 1 125
Kishi-Lang, Humble O. & R. Co. 1 540
Carbello, Rex Pet. Co. 4 100
Granger, Sinclair O. & G. Co. 5 4000
Chesnom, Texhoma Oil Co. 13 150

Wells completed 5
Production 4915
ORCHARD—FORT BEND COUNTY
Moore, Gulf Prod. Co. 14 800
PIERCE JUNCTION—HARRIS COUNTY
Taylor, Gulf Prod. Co. 22 500
Cain, Navarro Oil Co. 2-A 1000
Cain, Navarro Oil Co. 2-B 1500
P. S. A., Rio Bravo Oil Co. 7 1450
Fitzsimmons, Sun Oil Co. 1 50

Wells completed 5
Production 3500
SARATOGA—HARDIN COUNTY
"D," Rio Bravo Oil Co. 104 ..... dry
SOUR LAKE—HARDIN COUNTY
Merchant, Thels Oil Co. 5 140
SPINDLETOP—JEFFERSON COUNTY
Gladys, Gulf Prod. Co. 228 80
Weed, Gulf Prod. Co. 12-A ..... dry
Fee, Magnolia Pet. Co. 7 145
T. & N. O., Rio Bravo Oil Co. 2 200
McLean, Sun Oil Co. 11 2500
McLean, Sun Oil Co. 17 1500
McLean, Sun Oil Co. 18 3250
McFaddin, Yount Lee Oil Co. 25 2800
McFaddin, Yount Lee Oil Co. 48 465
McFaddin, Yount Lee Oil Co. 49 1000
McFadd'n, Yount Lee Oil Co. 50 3500
Gladys City, Yount Lee Oil Co. 49 800
Gladys City, Yount Lee Oil Co. 50 100
Gladys City, Yount Lee Oil Co. 51 100
Gladys City, Yount Lee Oil Co. 52 ..... dry

Wells completed 15
Production 18440
Dry 2
SOUTH LIBERTY—LIBERTY COUNTY
Mitchell, Yount Lee Oil Co. 1 200
STARKS—CALCASIEU PARISH
Industrial, Gulf Ref. Co. 9 ..... dry
MISCELLANEOUS—SOUTHEAST TEXAS
Austin County—
Raccoon Bend, Stravoski, Humble O. & R. Co. 1 ..... dry
Brazoria County—
Bartlett, Danciger Oil Co. 1 ..... dry
Muldoon, Rucks et al 1 ..... dry
Hinckle, Starks et al 3 ..... dry
Grimes County—
Black, Schnaufer et al 1 ..... dry
Jefferson County—
Big Hill, Staitl, Freeport Sulphur Co. 7 dry
Big Hill, Freeport Sulphur Co. 5 ..... dry
Tyrell, Beaumont O. & P. Co. 1 ..... dry
Crosby, McMurry et al 1 ..... dry
Liberty County—
Gardner, Miller et al 1 ..... dry
Gardner, Tilwell et al 1 ..... dry
Montgomery County—
Fitch, Brains et al 1-A ..... dry
Matagorda County—
Caney, John Deering et al 1 ..... dry
Sanborn, Gulf Prod. Co. 4 ..... dry
SOUTH LOUISIANA
Ascension Parish—
United Sand, Gulf Ref. Co. 4 ..... gas
Cameron Parish—
Hackberry, Olevia, Calcasieu Oil Co. 1 1800
Jeff Davis Parish—
Welsh, Eunice Welsh Oil Co. 1 30
Terrebonne Parish—
South Down, Southern Gas Co. 3 ..... dry

Wells completed 18
Production 1830
Dry 15
Gas 1
Gas production 15,000,000

EAST CENTRAL TEXAS

Summary of Field Operations

County—	Comp.	Prod.	Dry	Gas	Rigs	Drg.	Ttl.
Limestone	1	125	0	0	0	5	5
Freestone	2	....	2	0	0	1	1
Cherokee	1	....	1	0	0	0	0
Anderson	0	....	0	0	0	2	2
Navarro	0	....	0	0	0	3	3
Total January	4	125	3	0	0	11	11
Total Dec.	6	240	5	0	2	8	10
Difference	2	115	2	0	2	3	1

WELLS COMPLETED
LIMESTONE COUNTY
Ward, Transcontinental Oil 1 125
CHEROKEE COUNTY
Elliott & Clarke, Humble O. & R. 1 .. dry
FREESTONE COUNTY
Coleman, Orb't Oil 1 ..... dry
Theile, Roxana Petroleum 1 ..... dry

Completed 4
Production 125
Dry 3

WEST TEXAS FIELDS

Summary of Wells Completed

County—	Comp.	Prod.	Dry	Gas
Coke	1	0	1	0
Crane	6	5,770	0	0
Crockett	5	332	3	0
Ector	1	0	1	0
Fisher	0	0	0	0
Gaines	1	0	1	0
Howard	13	1,036	2	0
Mitchell	1	85	0	0
Pecos	30	300,540	2	0
Reagan	5	857	0	0
Runnells	1	0	1	0
Stonewall	1	0	1	0
Taylor	1	0	1	0
Upton	3	2,725	0	0
Winkler	13	24,517	0	1
Total West Texas. January	82	336,862	14	1
Total West Texas. December	117	401,014	21	0
Difference	35	64,152	7	1

Summary of Rigs and Wells Drilling

County—	Rigs	Drlg.	S. D.	Total
West Texas—				
Crane	3	12	..	15
Crockett	2	3	5	11
Howard	16	21	6	43
Jones	1	4	4	9
Mitchell	2	2	1	5
Pecos	34	50	9	93
Reagan	10	3	11	24
Runnels	3	7	1	11
Upton	4	4	2	10
Winkler	26	33	10	119
Misc. counties	9	37	44	90
West Texas totals. January	111	226	93	430

WELLS COMPLETED
COKE COUNTY
Mrs. B. Byrnes, Danciger Oil & Refining Co. 1 ..... dry
CRANE COUNTY
University-G, Tidal Oil Co. 2 2,000
University-D, Simms & Atlantic 8 1,850
J. T. McElroy, Gulf Prod. Co. 45 510
J. T. McElroy, Gulf Prod. Co. 46 720
University-Hardwicke, Magnolia Pet. Co. 15 390
University-Hardwicke, Magnolia Pet. Co. 16 300

Completions 6
Production 5,770
CROCKETT COUNTY
Todd, Kelly et al 1 ..... dry
Halff, Osage Oil Corp. 1 327
L. P. Powell, Bob Penn 1 ..... dry
University, W. M. Schaffer et al 1 5
University, Corbett & Gill 1 ..... dry

Completions 5
Production 332
Dry 3
ECTOR COUNTY
Connell, The Texas Company and J. S. Cosden 5 ..... dry
FISHER COUNTY
McCall, Marland Oil Co. and Texon Oil & Land Co. 1 ..... dry
GAINES COUNTY
Birge & Forbes, Westheimer & Daube 1 dry
HOWARD COUNTY
Mary Chalk, Magnolia Pet. Co. 8 30
Clay-A, Marland Oil Co. 6 70
Clay-A, Marland Oil Co. 7 54
Clay, Vitek Oil Co. 1 150
Dora Roberts, Coyle-Concord Oil Co. 1. 75
Dora Roberts, Coyle-Concord Oil Co. 2. 80
Otis Chalk, Sweeney et al 5 150
Fisher, California Oil Co. 1 ..... dry
Dora Roberts, Ward Oil Co. 1 85
Kelly Chalk, Magnolia Pet. Co. 9 130
Mary Chalk, Magnolia Pet. Co. 9 37
C. D. Read, Peer Oil Corp. 1 ..... dry
Otis Chalk, Sweeney and associates 2.. 175

Completions 13
Production 1,036
Dry 2
Gas production 1,000,000
MITCHELL COUNTY
Adams Lease 2, California Oil Co. 7... 85
PECOS COUNTY
Blackstone & Slaughter, Cummings et al 1 ..... dry
Yates, McMan and Marland 13 1,200
Yates, McMan and Marland 14 1,560
Yates, McMan and Marland 15 10,560
Yates-B, Mid-Kansas and Transcontinental 17 23,160
Yates-C, Mid-Kansas and Transcontinental 9 1,545
Yates-C, Mid-Kansas and Transcontinental 4 14,200
Yates-A, Mid-Kansas and Transcontinental 10 8,022
Yates-A, Mid-Kansas and Transcontinental 11 11,928
Yates-D, Mid-Kansas and Transcontinental 2 16,680
Tippett, Roxana Petroleum Corp. 4 .. 16,800
Tippett, Roxana Petroleum Corp. 1 ... 8,328
Tippett, Roxana Petroleum Corp. 5 .. 17,760
Tippett, Roxana Petroleum Corp. 7 .. 11,880
Tippett, Roxana Petroleum Corp. 6 .. 36,120
Smith-B, Humble Oil & Ref. 3 1,080
Smith-A, Gulf Prod. Co. 3 4,200
L. G. Yates, Gulf Prod. Co. 4 11,520
L. G. Yates, Gulf Prod. Co. 5 11,520
L. G. Yates, Gulf Prod. Co. 6 8,640
L. G. Yates, Gulf Prod. Co. 7 10,800
Smith Lease 3, California Oil Co. 5 6,552
Mrs. M. A. Smith, California Oil Co. 7 8,400
River Bed, Allsman & Bell 5 4,800
Arthur Harral, Red Bank Oil Co. 1 ... dry
Sweatt and Hinyard, George A. Henshaw 1 ..... dry
Smith, Roxana Petroleum Corp. 5 34,480
Smith, Roxana Petroleum Corp. 4 245
M. A. Smith et al Tr-A, Gulf Prod. Co. 5 34,560
M. A. Smith et al Tr-A, Gulf Prod. Co. 4 18,000

Completions 30
Production 300,540
Dry 3
Gas Production 3,000,000
REAGAN COUNTY
University, Big Lake Oil Co. 73 165
Big Lake Oil Co. 124 225
Big Lake Oil Co. 131 270
Big Lake Oil Co. 132 185
Big Lake Oil Co. 136 12

Completions 5
Production 857
RUNNELLS COUNTY
Fowler, Owenwood Oil Corp. 1 ..... abd
Simms, Noble Oil Co. 1 ..... dry

Completions 2
Abandoned location 1
Dry 1
STONEWALL COUNTY
Morrow, Peer Oil Corp. and Producers Oil Co. 1 ..... dry
TAYLOR COUNTY
Brown, Sanger Oil Co. 1 ..... dry
UPTON COUNTY
Lane-A, Texas Pacific Coal & Oil Co. 11 100
J. M. Perry, The Texas Company 4 ... 3,600
J. M. Perry, The Texas Company 5 25

Completions 3
Production 3,725
WINKLER COUNTY
Hendrick-D, Atlantic Oil Prod Co. 1 . 3,054
Ida Hendricks, Independent Oil & Gas Co. 2 1,000
Hendricks, Magnolia Pet. Co. 2 3,230
Hendricks-A, Roxana Pet. Corp. 1 1,200
Tract 68-3-A, Hendricks, Southern C. O. P. Co. 1 ..... gas
Tract 88-C Hendricks, Southern C. O. P. Co. 2 1,300
Hendricks-D, Atlantic Oil Prod. Co. 2.. 2,260
Tract 88-C Hendricks, Southern C. O. P. Co. 3 1,200
Grisham-Hunter-B, Cranfill & Reynolds 1 325
Grisham-Hunter, Humble Oil & Ref. Co. 1 3,800
Ida Hendricks, Magnolia Pet. Co. 4 3,255
Hendricks-D, Roxana Pet. Corp. 1 2,443
Grisham-Hunter-B, Murchison Oil Co. 3 450

Completions 13
Production 24,517
Gas production 90,000,000

NORTH CENTRAL TEXAS

Summary of Wells Completed

County—	Comp.	Prod.	Dry	Gas
Archer	21	379	11	0
Brown	36	907	23	3
Callahan	4	40	2	1
Coleman	6	345	2	1
Cooke	2	10	1	0
Eastland	14	2,821	4	3
Foard	1	0	1	0
Haskell	1	0	1	0
Jack	1	42	0	0
McCulloch	3	0	3	0
Montague	5	225	0	0
Palo Pinto	4	35	3	0
Shackelford	19	1,302	2	0
Stephens	10	73	6	1
Throckmorton	4	40	2	0
Wichita	28	199	9	0
Wilbarger	19	1,364	5	0
Young	9	11	7	0
Total January	179	7,813	83	9
Total December	241	8,452	123	10
Difference	62	639	40	1

Summary of Wells Drilling

Archer	9	14	1	24
Brown	6	23	10	39
Callahan	7	10	10	27
Coleman	6	23	21	50
Cooke	2	4	6	12
Eastland	10	27	5	42
Jack	3	10	11	24
Montague	7	9	3	19
Palo Pinto	2	3	9	14
Shackelford	4	11	5	20
Stephens	3	12	6	21
Throckmorton	..	1	..	1
Wichita	6	18	4	28
Wilbarger	23	34	4	61
Young	11	27	20	58
Misc. counties	..	7	29	36
North Central Texas totals, January ..	99	233	144	476
Grand total North Central and West Texas, Jan., 1928	210	459	237	906
Grand total North Central and West Texas, Dec., 1927	193	471	239	893
Difference	17	12	8	13

WELLS COMPLETED
ARCHER COUNTY
WICHITA FALLS DISTRICT
Burns, Burns and The Texas Company 2 ..... dry
Farmer, Burton 1 40
Garvey, Roberts Oil Co. 4 ..... dry
Garvey, Ross and associates 1 ..... dry
Morrison, Ross and associates 1 ..... dry
Farmer, Wilson 3 75
Wilson, Continental Oil Co., Perkins & Cullum 6 7
Wilson, Empire Gas & Fuel Co. 1 .... dry
Wilson, Kentucky Oil Corp. 1 ..... dry
Wilson, Shappell Oil Co. 16 10
Farmer, Carey & Rhader 3 16
Farmer, Hines and The Texas Company 2 a. ..... dry
Stevens Roach, Consolidated Oil Co. and Applebrandeberry Oil Co. 1 ..... dry
Farmer, Panhandle Oil Co. and Grisham 2 9
Garvey, Panhandle Oil Co. and A. W. Johnson 1 9
Garvey-B, The Texas Company 1 ..... dry
Wilson, Wright et al 3 10
Gragg, Boller 4 20
Gragg, Boller 5 20
Pace, Hines and associates 1 20
Green-C, Sun Oil Co. 1 ..... dry

Completions 2
Production 375
Dry 1
BROWN COUNTY
RANGER DISTRICT
Smith, Cranfill & Reynolds 12 20
Watson, Nichols et al 1 ..... dry
Gwathney, West Texas Land Co. 1 10
H. L. Alcorn, W. T. Daniels et al 1 20
Gilbreath, Amerada Pet. Corp. 4 20
DeBusk, Cranfill & Reynolds 1-B ..... dry
Allcorn, Daniels et al 1 110
Cason, Jr., Dozier et al 1 ..... dry
Hickman, Gilman & McMurray 1 ..... dry
Fannie Allcorn, Warren Dev. Co. 1 ..... dry
Smith, Wheelock & Collins 7 20
Taylor, Ditto Oil Interests 1 20
Allen heirs, Hammon & Garrett 1 ..... dry
Beasley, Humphrey Brothers 1 ..... dry
Gwathney, Lamb et al 2 ..... dry
Stewart, Massey 1 ..... dry
Kesslar, Blanchard and associates 1 .. dry
Smith, Cranfill & Reynolds 20 10
Nixon, Osage Oil Corp. 1 ..... dry
Curry, Pandem Oil Co. 1-B ..... dry
Ellis, Sel'y Oil & Gas Co. 24 440
Baker, Senior Pet. Co. 1 ..... dry
Robertson, Wentz Oil Corp. 1 ..... dry
Smith, Wheelock & Collins 8 ..... dry
Fuller, Curtis 1 ..... dry
Shipman, Panmico Exploration Co. 1 ... gas
Gwathney, West Texas Land Co. 1 20
King, Atlantic Oil Prod. and Nimrod Co. 1 ..... dry
Brooke, J. B. Baker Jr., 1 ..... dry
Newsome, Phillips Pet. Co. 11 ..... dry
Allcorn, Ray Oil Co. 1 ..... dry
Smith, Wheelock & Collins 6 1
Carter, Choate Interests 1 ..... gas
Nichols, Cranfill & Reynolds 1 ..... dry
Hooper, Gold and associates 1 ..... dry
Cleveland, Inland Oil Co. 1 ..... gas

Completions 11
Production 97
Dry 2
Gas 1
Gas production 4,500,000
CALLAHAN COUNTY
Radford, Kelly et al 1 ..... dry
Alvord, Tollett & Graham 3 ..... gas
Brown, Mook-Texas Oil Co. 3 40
Snyder, Peeples 1 ..... dry

Completions 4
Production 60
Dry 2
Gas 1
Gas production 15,000,000
COLEMAN COUNTY
Seale, Owens 1 ..... abd
Morris, Eastland Oil Co. and Chestnut & Smith 2 120
Hale, Scarborough 1 ..... dry
Breneke, Smith and associates 1 20
Beck, Gracey & Ehorn 1 ..... gas
Horne, Hoffman & Page 1 ..... dry
Williamson, Independent O. & G. Co. and Fleeger 1 ..... dry

Completions 1
Production 340
Dry 1
Abandoned locations 1
Gas 1
Gas production 2,500,000
COOKE COUNTY
M. K. & T., J. C. McFarland 1 10
Kleiss, Oil Operators Trust Co. 8 ..... dry

Completions 2
Production 10
Dry 1
EASTLAND COUNTY
W. W. Fox-A, Gulf Prod. Co. 1 1,440
Rumph, Cisco-Falls Oil Co. 1 ..... dry
Hawkins, Magnolia Pet. Co. 9 5
Nivers, Mays et al 1 60
Blackwell, Parsons et al 3 600
Elliott, Crozelius et al 1 20
Duffer, Barkley and associates 2 ..... gas
Studdard, Edwards and associates 1 ... dry
Fox, Hooser 3 120
Selby, Mook-Texas Oil Co. 9 ..... gas
Grove, Adams and associates 4 160
Thorp, McLester and States Oil Corp. 1-B 500
Day, Root and associates 3 ..... dry
Harrell, States Oil Corp. 6 ..... gas

Completions 11
Production 2,837
Dry 1
Gas 1
Gas production 27,150,000
FOARD COUNTY
Walker, The Texas Company 1 ..... dry
HASKELL COUNTY
Reynolds, Moody Oil Corp. 1 ..... dry
JACK COUNTY
Jones Estate, Buttram Pet. Co. 5 6
MCCULLOCH COUNTY
Shelton, Brown & Shore 1 ..... dry
Dutton, Ragsdale et al 2 ..... dry
Dutton, Wakefield et al 2 ..... dry

Completions 3
Dry 3
MONTAGUE COUNTY
Cunningham, Roy Carter and Rycade 1 .. 15
Maddox-A, Continental Oil Co. 24 20
Hinton, Humble Oil & Ref. Co. 2 40
Loy et al, Pure Oil Co. 2 20
Maddox, Sigler and associates 4 20

Completions 23
Production 225
PALO PINTO COUNTY
Broanfield, Clements et al 1 ..... dry
Costello, Camp Oil & Gas Co. 1 ..... dry
Hinkson, McGinley et al 1 10
Rector, Leiser & Snebold 1 10

Completions 3
Production 35
Dry 1
Gas production 2,000,000

SHACKELFORD COUNTY

King, Evans et al 1 50
Herron, Thomas 1 ..... dry
Matthews, Wylie et al 3 10
Russ-Webb, Big State Oil Co. 3 10
Beam, Kouri et al 1 ..... dry
Roeser & Pendleton 1-A-61 127
Cook Ranch, Roeser & Pendleton and Marland 42-A-60 60
44-A-60 25
45-A-60 40
46-A-60 50
47-A-60 50
48-A-60 60
49-A-60 40
57-A-60 400
13-C-60 40
14-C-60 50
15-C-60 40
16-C-60 50
1-A-61 200

Completions 19
Production 1,302
Dry 2

STEPHENS COUNTY

Walker (Martin), Texas Consolidated Oil Co. 10 10
Riddle, Clark et al 3 28
Curry, Lyman et al 1 ..... gas
Riddle, Mook-Texas Oil Co. 4 ..... dry
Pierce, Texas-Pacific Coal & Oil Co. 5 ..... dry
Riddle, Thompson et al 1 ..... dry
Black Brothers, Dyar Brothers 1 ..... dry
Carey, The Texas Company 1 ..... dry
Cook, Texas-Fidelity Oil Co. 1 ..... dry
Thorp, McLester Oil Corp. 1 35

Completions 10
Production 73
Dry 6
Gas production 700,000

THROCKMORTON COUNTY

Graham, Falls Prod. Co. 4 20
Cole, Red Bank Oil Co. 1 20
Cummings, Associated Pet. Co. 4 ..... dry
Matthews, Parker and associates 4 ..... dry

Completions 4
Production 40
Dry 2

WICHITA COUNTY

Burnett, Electra Production Co. 6 15
McCarty-C, W. H. Hammon and associates 2 3
W. H. Hammon and associates 4 4
W. H. Hammon and associates 5 2
Deep Watkins, Vergate Oil Co. 1 75
Roller, Ascot Co. 45 ..... dry
Schackenberg, A. A. Rollstone 1 ..... dry
Waggoner Brothers, Cooper & Mishler 13 ..... dry
Deep M. A. Love-B, Petroleum Prod. Co. 5 40
Kemp-Kemper-B, Dale Oil Corp. 5 ..... dry
McBurney, George W. Maywood 1 10
Kemp-Kemper, Shappell Oil Co. 10 25
Kemp-Kemper, Shappell O'l Co. 11 20
Kemp-Kemper, Vergate Oil Co. 2 ..... abd
J. M. McCormick, T. Lomas and associates 1 ..... dry
W. H. Chilson, Paul T. Monke and associates 1 ..... dry
McCarty-C, Hammon and associates 6. dry
N. Ferguson, L. P. Hammond 1 ..... dry
W. T. Waggoner, The Texas Company 338-A ..... dry
W. T. Waggoner, The Texas Company 344-A 3

Completions 20
Production 199
Dry 10

WILBARGER COUNTY

Waggoner-E, Waggoner Ref. Co. 1 76
Waggoner-I, Fain & McGaha Oil Corp. 2 100
Waggoner-C, Phillips Pet. Co. 2 12
Waggoner-F, Phillips Pet. Co. 12 15
Waggoner-M-M, Phillips Corp. 1 60
Waggoner-B, The Texas Company 4 10
Anderson, Consolidated Oil Co. et al 1.. dry
Waggoner-R, Fa'n-McGaha Oil Corp. 2 114
Waggoner-H, Humble Oil Co. 21 50
Waggoner-F, Phillips Pet. Co. 12 14
Castleberry-B, The Texas Company 2.. dry
Waggoner-A, Barkley & Meadows 1 .. 153
Waggoner-H, Humble Oil & Ref. 21 .. 25
Waggoner-A, Lawson 1 290
Waggoner-B, Milham Corp. 13 ..... dry
Waggoner (Rest), Phillips Pet. Corp. 1. dry
Waggoner-B, Prairie Oil & Gas Co. 5.. dry
Waggoner-B, The Texas Company 2 .. 150
Waggoner-B, The Texas Company 4 .. 195

Completions 19
Production 1,364
Dry 5

YOUNG COUNTY

Gregg, Hines and associates 1 ..... dry
Stewart-A, Roberts Oil Corp. 1 ..... dry
Robertson, Lenor Oil Co. 1 ..... dry
Graham, Godley 1-A 10
Payne, Ramsey et al 1
Morrison, Paull Oil Co. 6 ..... dry
Leberman, Anderson and associates 1 .. dry
McDonald, Holbrokk & Wood 1 ..... dry
Keen, Roberts Oil Corp. 4 ..... dry

Completions 9
Production 11
Dry 7
Gas production 5,200,000

SOUTHWEST TEXAS

Summary of Field Operations

	Comp.	Pro.	Dry	Gas	Rig	Drg.	Ttl.
Mirando	13	695	8	2	6	17	23
Luling	1	25	0	0	1	4	5
Ringgsville	1	60	0	0	2	1	3
Refugio	0	0	0	0	0	0	0
Adams Gas Field	3	0	1	2	1	2	3
Somerset	0	0	0	0	0	0	0
Dale Field	3	200	0	0	2	0	2
Miscellaneous	20	0	16	4	12	127	139
Ttl. Jan., '28	41	980	25	8	24	151	175
Ttl. Dec., '27	66	241	40	11	17	162	179
Difference	25	739	15	3	7	11	4

COLE FIELD—DUVAL COUNTY

Humphreys Corp. 1 ..... gas
Houston Oil (Sun) C-3 ..... gas
Cole Petroleum 38 ..... abd

DRISCOLL FIELD

R. Driscoll 10 fee ..... abd

RANDADO FIELD—JIM HOGG COUNTY

Johnson et al 22 75
Johnson et al 28 400
Magnolia Petroleum 32 ..... abd

ALWORTH FIELD

Alworth-Stevens-Hild 10 220

HENNE, WINCH & FARISS

Magnolia Petroleum 17-A ..... abd

Wildcats

Paesano Oil Syndicate 1 ..... abd

WEBB COUNTY

Wildcats

W. O. Wheatley 2 ..... abd
D. J. Simmons 2 ..... abd
F. J. Bates 1 ..... abd

Completed 13
Gassers completed 2
Oil wells completed 3
Dry and abandoned 8
Oil production 695
Gas production 70,000,000

LULING FIELD

Magnolia Petroleum, McKinney 3 25

DALE FIELD

The Texas Company, Lackey 5 30
The Texas Company, Osteen 1 130
The Texas Company, Osteen 2 40

Completed 3
O'l wells completed 3
Oil production 200

ADAMS GAS FIELD

Southern Gas-Witherspoon, Redus 3... gas
Witherspoon Oil, Nixon 6 ..... gas
Southern Gas-Witherspoon, Adams 5 .. abd

Wells Completed 3
Gassers completed 2
Dry and abandoned 1
Gas production 6,175,000

KINGSVILLE FIELD

Humble Oil & Ref., Dennett A-4 60

MISCELLANEOUS

BEE COUNTY

Nichols & White, Hicks & Hall 1 .... abd

CALDWELL COUNTY

Sutton & Smith, Carter 1 ..... abd
Doctor Butte et al, Thomson 1 ..... abd
Alexander-Lyles & Adams, McConnel 1 abd
E. F. Smith, San Marcos River 5 ..... abd
Martin & Wright, Blackwell 1 ..... abd
Sutton & Smith, Carter 2 ..... abd

EDWARDS COUNTY

Devil's River Oil & Gas, Turney 1 .... abd

GUADALUPE COUNTY

F. A. Lain, Weinert 1 ..... abd
Eugene Sights, Fred Kruger 1 ..... abd

KINNEY COUNTY

W. A. Stephens et al, Clamp 1 ..... abd

LA SALLE COUNTY

Sun Oil, Washburn 1 ..... abd

LIVE OAK COUNTY

Houston Oil, Cartwright 21 ..... gas

MAVERICK COUNTY

Rycade Oil, Sullivan 2 ..... abd

NUECES COUNTY

Perry et al, State Land 1 ..... gas

SAN PATRICIO COUNTY

Mission Drilling, Hunter 1 ..... gas

STARR COUNTY

T. W. Foltz, Well 1 ..... abd

TRAVIS COUNTY

Smith & Clark, Jacobson 1 ..... abd

VAL VERDE COUNTY

Independent Operators, Whitehead 1... abd

ZAVALA COUNTY

J. G. Pundt, West 1 ..... gas

Wells completed 20
Gas wells completed 4
Dry and abandoned 16
Gas production 140,000,000

TEXAS PANHANDLE

Summary of Rigs and Wells Drilling

County—	Rigs	Drlg.	S. D.	Total
Carson	2	1	2	5
Gray	28	39	7	74
Hutchinson	8	15	4	27
Wheeler	4	8	2	14
Misc. counties	3	13	35	51
Totals January	45	76	50	171
Totals December	34	78	45	157
Difference	11	2	5	14

Summary of Wells Completed

County—	Comp.	Prod.	Dry	Gas
Carson	2	0	0	2
Gray	7	5,867	0	0
Hutchinson	6	763	1	1
Potter	1	0	0	1
Wheeler	2	60	0	1
Total January	18	6,690	1	5
Total December	32	11,194	6	3
Difference	14	4,504	5	2

CARSON COUNTY

Charles Kalka, The Texas Company 1.. gas
Burnett Estate, Willis et al 1 ..... gas

Completions 2
Gas production 45,000,000

GRAY COUNTY

W. Jackson, Danciger Oil & Ref. Co. and associates 230
J. B. Bowers, Gibson Oil Corp. 2 856
Bowers, The Texas Company 1 1,246
Bowers, Gulf Prod. Co. 3-A 3,160
Bowers, Gulf Prod. Co. 3 140
J. Morse, M. O. & G. Co. 1 225
W. Jackson, Skelly Oil Co. 1 10

Completions 7
Production 5,867

HUTCHINSON COUNTY

Lee Bivins, Phillips Pet. Co. and White Eagle 1 246
E. Cockrell, McMan Oil & Gas Co. 4 .. 55
E. Cockrell, McMann Oil & Gas Co. 3 .. dry
Cal Merchant, Prairie O. & G. Co. and Vacuum Oil Co. 262
E. Cockrell (Martin), McMan Oil & Gas Co. 4 200
Johnson Bros., Phillips Pet. Co. 1 ..... gas

Completions 6
Production 763
Dry 1
Gas production 4,000,000

POTTER COUNTY

Lee Bivins, Prairie Oil & Gas Co. 2.... gas
Completions 1
Gas production 59,000,000

WHEELER COUNTY

J. W. Gordon, Clark and associates 1 ... gas
W. S. Walker, Piney Oil Co. 1 60

Completions 2
Production 60
Gas 1
Gas production 10,000,000

ROCKY MOUNTAIN AREA

WYOMING

Summary of Field Operations

District—	Cmp.	Prd.	Dry	Gas	Rgs	Drlg.	Ttl.
Salt Creek	4	48	0	0	5	16	21
B. Horn County	0	0	0	0	0	6	6
Carbon County	1	0	0	1	0	10	10
Converse County	1	75	0	0	1	3	4
Fremont County	1	200	0	0	1	8	9
Goshen County	0	0	0	0	0	1	1
Hot Spgs., Washakie Co'nties	0	0	0	0	1	1	2
Hot Spgs. C'nty	0	0	0	0	0	5	5
Johnson County	0	0	0	0	1	4	5
Natrona County	0	0	0	0	1	4	5
Niobrara County	1	100	0	0	3	5	8
Park County	0	0	0	0	3	28	31
Platte County	0	0	0	0	0	2	2
Sw'tw'tr County	1	0	1	0	1	10	11
Sublet County	0	0	0	0	1	29	30
Uinta County	0	0	0	0	1	3	4
Washakie C'nty	0	0	0	0	0	3	3
Weston County	0	0	0	0	1	11	12
Total, Jan.	9	423	1	1	20	149	169
Total, Dec.	17	517	6	0	19	160	179
Difference	8	94	5	1	1	11	10

COLORADO

Summary of Field Operations

County—	Comp.	Prd.	Dry	Gas	Rgs	Dlg.	Ttl.
Boulder	0	0	0	0	1	6	7
Fremont	6	525	1	0	1	14	15
Larimer	0	0	0	0	4	10	14
Moffat	1	136	0	0	3	10	13
Routt	1	2	0	0	0	5	5
Rio Blanco	0	0	0	0	1	3	4
Miscellaneous	2	0	1	1	0	35	35
Total, Jan.	10	663	2	1	10	83	93
Total, Dec.	7	2,616	0	1	16	83	99
Difference	3	1,953	2	0	6	0	6

NEW MEXICO

Summary of Field Operations

	Cmp.	Prd.	Dry	Gas	Rgs	Dlg.	Ttl.
Total, Jan.	7	280	3	2	10	90	100
Total, Dec.	6	244	4	0	7	96	103
Difference	1	36	1	2	3	6	3

UTAH

Summary of Field Operations

Total, Jan.	0	0	0	0	1	27	28
Total, Dec.	0	0	0	0	2	25	27
Difference	0	0	0	0	1	2	1

MONTANA

Summary of Field Operations

District—	Comp.	Prod.	Dry	Gas	Rigs	Drg.	Ttl.
Cat Creek	0	0	0	0	0	4	4
Kevin-Sunburst	7	1,880	1	1	11	13	25
Misc.	4	0	3	1	10	56	66
Total Jan.	11	1,880	4	2	21	73	94
Total Dec.	15	50	9	3	19	76	95
Difference	4	1,830	5	1	2	3	1

WYOMING

Wells Completed

5-35-65	Schurecht, Buck Creek Oil Co., 1	100
35-40-79	SE Wyoming, Associated, 30-19-L	30
35-40-79	SE, Wyoming Associated, 30..	1
19- 2-2	Hudson, Producers & Refiners, 1	30
35-40-79	NW Wyoming, Associated, 18	200
1-39-79	NW, Wyoming, Associated, 31-A	12
9-33-76	Whiteside, Continental Oil Co., 54	- 5
10-26-90	Prairie Oil & Gas Co., 67-A..	75
7-26-89	Wertz, Producers & Refiners, 5	abd
		gas
	Wells completed	9
	Production	423
	Dry	1
	Gas	30,000,000

COLORADO

Wells Completed

2-19-70	Hall, Continental Oil Co., 2..	40
35-18-70	Miller, Florence Proven Fields Oil Co., 2	200
5- 6-86	Rule, Texas Production Co., 1	2
21-20-69	Hassel, Mojada Oil & Gas Co., 3	100
33- 5-91	Knowlton, Texas Production Co., 10	136
3-19-70	Lucas, Sheffer & Benzona, 1.	135
21-20-69	Hassler, Dickason Oil Synd., 2	50
9-34-62	Sandoval, Mountain States Gasoline Co., 4	gas
35-18-70	Hunter-Palmer, Oberholtz et al 1	abd
22-41-10	State, Valley Oil Co. 1	abd
	Wells completed	10
	Production	663
	Gas	1
	Dry and abandoned	2

NEW MEXICO

Wells Completed

22-17-31	Lynch, Skelly Oil Co., 1	60
25-16-31	Robinson, Texas Production Co., 7	220
34-29-11	Garland, Mesick & Bell, 1...	gas
34-17-33	Wyatt, Henderson, Dexter & Blair, 1	dry
21-17-30	McIntyre, Woolley et al, 1	gas
4-17-34	State, Inglefield & Bridges 1	abd
32- 7-2	Harlan, Valencia Petroleum Co., 1	dry
	Wells completed	7
	Production	280
	Gas	2
	Dry and abandoned	3
	Gas production	2,000,000

MONTANA

WELLS COMPLETED

31-35- 1	Allen, Big West Oil Co. 27	dry
21-35- 2	Barr, Ohio Oil Co. 4	8
33-35- 1	Schacht, Ohio Oil Co. 5	12
4-351 2	Baker, Ohio Oil Co. 13	10
12-34- 2	Adams, Co-operative Pet. Co. 3	50
27-35- 3	Davis, Majes ic Oil Co.	1800
18-34- 1	Skinner, Oil Producers Synd. 2.	gas
5-27- 3	Thill, Embar Drilling Co.	dry
19-26- 1	Neddeman, Elliott Miller Conklin	dry
24- 1-21	SW, Record Pet. 5	gas
15-25- 1	Bannatyne, Fidelity Oil Co.	dry
	Wells completed	11
	Production	1850
	Dry	4
	Gas	2

EASTERN FIELDS

Wells Completed

Fields—	Comp.	Prod.	Dry	Gas
Allegany	26	39	1	2
Bradford	68	156	1	7
Middle Field	7	6	1	0
Venango-Clarion	11	10	1	3
Butler-Armstrong	5	6	1	1
S. W. Penna	13	38	6	1
West Virginia	75	168	17	45
S. E. Ohio	44	654	6	14
Totals January	252	1,077	34	67
Totals December	301	997	37	57
Difference	49	80	3	10

Summary of Work Under Way

Fields—	Rigs	Drlg.	Ttl.
Allegany	9	21	30
Bradford	10	49	59
Middle Field	0	3	3
Venango-Clarion	0	10	10
Butler-Armstrong	8	6	14
S. W. Penna	3	34	37
West Virginia	34	106	140
S. E. Ohio	25	70	95
Totals January 31	89	299	388
Totals December 31	84	343	427
Difference	5	44	39

WELLS COMPLETED

Allegany Field

Hazelwood Oil Co., Tr. 1 Allegany 71 1
July 2 fee, Forest Oil Corp., lot 18 .. 1
Boyd & Jordan, L. E. Jordan 6 ..... wtr
Fee, Barnes & Scott 2
Reid, agent, State Bank Bolivar 24 et al 4
First Tr. Co. Vvs. 83, W. J. Richardson, et al 1
Fee, Bradley Producing Corp. 4
Fee, Phillips & Bartlett ..... wtr
Fee, Fairview Oil 1
McDermott, John K. Cochran, et al 2
McDermott, John K. Cochran, et al 2
Fee, LeSuer Oil Corp. 2
Fee, LeSuer Oil Corp. 2
Fee, Geo. H. Bradley, et al 2
South Pen et al, First Trust Co., Wvs. 94 2
Fee, Colegrove Oil, Inc. 2
Fee, A-C-A Oil Corp. 1
Fee, J. C. Minderler, Jr. 1
Fee, H. C. & E. W. Miller ..... gas
Fee, H. C. & E. W. Miller ..... gas
Fee, Mary Lippert 2
Kurtzshaltz, E. G. & F. W. Stephan ... 2
Fee, Miller & Bovaird 2
Brandel, N. V. V. Franchot 2
Brown et al, Polley Bros. ..... dry
Fee, L. V. Forness et al 1

Wells completed 26
Production 39
Dry 1
Gas 2
Water 2

Bradford Field

Bing 296, Andrus & McDowell ..... gas
Rew, Bovaird & Hamlin 22 2
Bing. 490, T. H. Kennedy No. 2 156 .. 1
Bing. 490, T. H. Kennedy No. 2 157 2
Tyler fee, Forest Oil Corp. 80 1
Fisher fee, Forest Pet. Corp. 141 141
Niles fee, Forest Pet. Corp. K-65, pressure
Niles fee, Forest Pet. Corp. K-69, pressure
Niles fee, Forest Pet. Corp. K-613.. pressure
H. E. Smith, S. P. O. 011. ..... pressure
Moody 66, S. P. O. 37 1
H. E. Smith, S. P. O. 156 2
H. E. Smith, S. P. O. 012 ..... pressure
Lots 5 and 6, S. P. O. 53 1
Melvin, S. P. O. 212 1
Melvin, S. P. O. 027 ..... pressure
Chipmonk, S. P. O. 79 1
N. W. M. Ex. Co., 2 o-c, S. P. O. 06 pressure
Melvin, S. P. O. 211 1
Newell 80, S. P. O. 80 1
Erie R. R., 1 o-c, S. P. O. 39 1
Dent, S. P. O. 117 1
Tract 22, Hazelwood Oil 45 1
Fee, South Penn Oil 1
Fee, J. G. McCandless 4
Fee, E. A. Potter 3
N. V. V. Franchot, A. J. Crisman 3
N. V. V. Franchot, T. P. Thompson Jr. 1
Erie R. R., South Penn Oil 1
J. B. Strong & Co., J. H. Hannon 1
Fee South Penn Oil 1
Fee, Moses Sullivan 1
Bingham, Hazelwood Oil 1
Bingham, Hazelwood Oil 4
Bingham 453, South Penn Oil 3
Fee, South Penn Oil 3
Fee, South Penn Oil 2
Bingham, T. B. Wilson 2 4
Bingham, T. B. Wilson 2 4
Bingham, T. B. Wilson 2 2
Bingham, T. B. Wilson 2 5
Bingham 439, South Penn Oil 3
Bingham 408, South Penn Oil 2
Bingham, 420, South Penn Oil 5
Bingham 582, Associated Producers 3
Bingham 576, South Penn Oil 1
Fee, Skaggs Brothers 5
Corwin, Simon Brothers 5
Melvin, South Penn Oil 3
Borden, M. A. & W. L. Wasson 2
Borden, T. B. Wilson 2
Norton, Kahle Oil 2
Saunderson, A. Schorman 1
Kuhn, Davis Oil 10
Duke, Penn Petroleum 5
Emerson, G. L. Rhodes et al 3
Keating, First Nat. Bank, Olean 5
Fee, Grow Farm Oil 2
Fee, Penn Oil Products Ref. 2
Fee, V. G. Smith 2
Fee, North Branch Oil 3
Rounds, J. W. Kaufman 8
Rounds, N. V. V. Franchot 6
Hamlin est., J. E. Karl & Co. 2

Kuhn, Davis Oil 2
Kuhn, Davis Oil 2

Wells completed 68
Production 150
Gas 1
Pressure 7

MIDDLE FIELD

Lot 37, T. J. Keenan 1
Smith, McCool Brothers 1
McDonald, J. L. Billstone 1
Siggins, E. Pequigot 2 ..... dry
Foster, E. Z. Keller 15 1
Foster, E. Z. Keller 16 1
Foster, E. Z. Keller 17 1

Wells completed 7
Production 6
Dry 1

VENANGO-CLARION

Sampel Porter heirs, J. B. Porter 25 1
Keverline, Dempseytown Gas & Keverline 2 ..... gas
S. & C. Lake Ice Co., S. & C. Lake Ice 8 1
Dawson, W. I. Stephens 36 1
McCalmont, G. M. and W. L. Hess 22 1
Columbia East Side, Pioneer Oil 11 1
Wilbert, P. A. Wilbert et al 24 1
Pearson, Midland Oil Corp. 1 1
Pearson, Midland Oil Corp. 2 3
Clarion—
Grazier, Bruin Oil & Gas 2 ..... gas
Gilmore, Lucart & Co. 1 ..... dry

Wells completed 11
Production 10
Dry 1
Gas 2

BUTLER-ARMSTRONG

McKinney, Edward McKinney 7 3
Say, George Levier et al ..... gas
Gibson, J. C. Gibson ..... dry
Baudauf, Birckbichler Bros. 1 2
Hockenberry, Ingold & Ruby 17 3

Wells completed 5
Production 6
Dry 1
Gas 1

WELLS COMPLETED
SOUTHEAST OHIO
MONROE COUNTY

Kerr, Weber & Co. 9 10

PERRY COUNTY

Weiss, Hope C. & R. Co. 2 78
Batson, Cline & Co. 1 ..... gas
Mooney, Pure Oil Co. 1 40
Maxwell hrs., Bloomingville O. & G. 1 40

HOCKING COUNTY

Brick & Clay Prods. Co., Ordarp & Co. 1 gas

GUERNSEY COUNTY

Watson, Watson & Co. 4 50
Ridgley, Pure Oil Co. 3 30
Kerr, Cambridge Oil Co. 1 10

HOLMES COUNTY

Mullet, Kemrow Co. 1 ..... gas
P. Mullet, Kemrow Co. 1 ..... gas
Allison, Kemrow Co. 2 ..... gas
Nethrow, Empire G. & F. Co. 6 50
Martin, Empire G. & F. Co. 2 ..... dry
Snow, Empire G. & F. Co. 1 ..... dry
Arnold, Mill Creek Oil Co. 3 ..... gas

LICKING COUNTY

McKnight, Hope C. & R. Co. 1 1
Davis, Heisey Co. 2 ..... dry
Howell, Ark. Fuel Oil Co. 2 2
Cassna, Brown & Co. 4 4

COSHOCTON COUNTY

Moore, Trinway O. & G. Co. 1 ..... gas
Wilson, Preston Oil Co. 1 150
Whitehill, Shenker Bros. 1 ..... gas
Barnes, Hope C. & R. Co. 2 ..... gas

MUSKINGUM COUNTY

Smith, Ohio F. S. Co. 40
Smith, Ohio F. S. Co. 1 ..... dry
Cooperrider, Robinson & Co. 1 ..... dry
Francis hrs., M. F. Whitehill 2 100

ATHENS COUNTY

Jerod, Stroud & Run O. & G. Co. 3 ..... gas
State Lands, Athens State Oil 9 ..... gas
Hooper, Rohnhausen & Co. 1 ..... gas

NOBLE COUNTY

Steen hrs., H. A. Hendershot 5 3

MORGAN COUNTY

Wallace, Lisbon O. & G. 1 ..... dry

GALLIA COUNTY

Reynolds, Gordon Oil Co. 1 ..... gas

MEIGS COUNTY

Davis, Preston Oil Co. 1 10
Webster, Preston Oil Co. 1 ..... gas

WASHINGTON COUNTY

Atkinson, Watkinson & Co. 1 1
Atkinson, Watkinson & Co. 2 5
Wharff, Huffmand & Co. 1 1
Seman, Lankford O. & G. 1 2
Burger, Becker & Co. 2 3

BELMONT COUNTY

Carpenter, Moore & Co. 2 2

COLUMBIANA COUNTY

Blumer, Renner-Deibel Co. 21 3

Wells completed 44
Production 654
Dry 6
Gas 14

WELLS COMPLETED
SOUTHWEST PENNSYLVANIA
WASHINGTON COUNTY

Linn, Ellsworth Coal Co. 1 ..... dry
Kinder, Carnegie Gas Co. 2 2

ALLEGHENY COUNTY

Wolf, John C. Nock 4 1
Myers, Robinson & Co. 1 ..... dry
Dry, Scott & Co. 1 10
McKee, Natovich & Co. 1 3

BEAVER COUNTY

Dawson, P. R. Laughlin 1 ..... dry

GREENE COUNTY

Fox, Peoples Gas Co. 2 ..... gas
T. Fox, Philadelphia Gas Co. 1 ..... dry
Brown, Orndoff & Co. 1 ..... dry
Dukate, Keystone O. & G. Co. 1 2
Ray, Nuss & McCloy 1 20
Baldwin, Carnegie Gas Co. 2 ..... dry

Wells completed 13
Production 38
Dry 6
Gas 1

WELLS COMPLETED
WEST VIRGINIA
LEWIS COUNTY

Davis, Carnegie Gas Co. 1 ..... gas
Griggs, Moran Drlg. Co. 1 ..... gas
Starcher, Hope Gas Co. 1 ..... gas
Summers, So. P. O. Co. 6 ..... dry

HARRISON COUNTY

Furno, Furno Oil Co. 6 ..... gas
Foodwin, Conservative Gas Co. 1 ..... gas
Evans, Reserve Gas Co. 1 ..... gas

MARION COUNTY

Tennant, Monroe & Laughlin 1 ..... gas
Eddy, Carnegie Gas Co. 1 ..... dry
Valentine, Owens B. & N. Co. 1 ..... dry
Eddy, Hope Gas Co. 1 ..... gas

MONONGALIA COUNTY

Efauw, Mfrs. L. & H. Co. 3 ..... gas
Tennant, Mfrs. L. & H. Co. 2 ..... gas

WETZEL AND TYLER COUNTIES

Clark, Mfrs. L. & H. Co. 1 ..... gas
Miller, Carnegie Gas Co. 1 4
Ritter, Hope Gas Co. 2 3
Price, Shimwell O. & G. Co. 1 1
White, So. P. O. Co. 1 ..... dry
Antill, Mfrs. L. & H. Co. 3 ..... dry
Kimble, Browns Run Gas Co. 1 ..... gas

MARSHALL COUNTY

Fry, Mfrs. L. & H. Co. 2 ..... gas

DODDRIDGE COUNTY

Chipps, Elkhorn O. & G. Co. 1 ..... dry
Wills, So. P. O. Co. 1 ..... gas
Perine, Murphy Oil Co. 3 3

RITCHIE COUNTY

Mason, Imperial O. & G. Co. 1 ..... gas
Hickman hrs., Junior O. & G. Co. 1 ..... gas
McCullough, Bachelor & Conger 1 15
Grobb, So. P. O. Co. 1 ..... gas
Jordan, Hope C. & R. Co. 3 8
Tingler, Clarence Simpson 1 ..... dry
Pratt, Acme O. & G. Co. 1 ..... gas

CLAY COUNTY

Reed, Virginian G. & O. Co. 2 20
J. Reed, Bickerstaff & Co. 1 ..... gas

GILMER COUNTY

Despard, Hope Gas Co. 5 ..... gas
Ayers, Hope Gas Co. 2 5
Boyer, Hope Gas Co. 1 ..... dry
Huffman, Chartiers Oil Co. 6 ..... gas
Clowser, Pauley & Fletcher 2 ..... gas
Rathbone Oil Tract, Robert Bros. 227 2
Nermon, W. C. Patterson 8 ..... dry

WOOD COUNTY

Reed, C. S. Reed 3 ..... dry
Smith-Goldish, Smith & Goldish 5 2
Ralston, Sweeney & Nelson 2 1

PLEASANTS COUNTY

Farson, American Oil Co. 1 2
Sharp, Sharp Farm Oil Co. 1 2

ROANE COUNTY

Cummings, Clifton O. & G. Co. 2 3
Carter, Chartiers Oil Co. 1 12
Jackson, So. P. O. Co. 1 ..... dry
Tallman, Heck Oil Co. 4 10
Stockly, So. P. O. Co. 66 20

CALHOUN COUNTY

Craddock, G. L. Cabot 1 ..... dry
Yoak, Hope C. & R. Co. 1 ..... gas
Groves, Hardman Co. Harshman 1 25
Nicholson, G. L. Cabot 1 ..... gas

LOGAN COUNTY

Dingess Run Coal Co., Wacatock Prod. Co. 22 ..... gas
Dingess Run Coal Co., Wacatock Prod. Co. 23 ..... dry
Dingess Run Coal Co., Wacatock Prod. Co. 24 ..... gas

MINGO COUNTY

Logan C. C. Co., Old Colony O. & G. 26 10

LINCOLN COUNTY

Stowers, Ray & Son 1 ..... gas
Cooper, Ray & Son 3 ..... gas

PUTNAM COUNTY

Roberts-Vanderline, Wysong & Jayned 3 gas

BOONE COUNTY

Williams Coal Co., Pure Oil Co. 224 19
Lafollette, Pritchard Tract B., Pure Oil Co. 30 ..... dry
Lafollette, Pritchard Tract B., Pure Oil Co. 28 ..... dry
Federal Coal Co., Pure Oil Co. 28 ..... dry
Cochran, Owens B. & M. Co. 5 ..... gas
Coal River M. Co., Owens B. & M. Co. 34 gas
Little Coal Land Co., Owens B. & M. Co. 8 ..... gas
Peytenia, G. & L. Co., Owens B. & M. Co. 14 ..... gas
Hill & Co., Owens B. & M. Co. 3 ..... gas
Pond Fork C. Co., Yawkey O. & G. 4 .. dry
Herde C'k. C. & LL. Co., United F. G. Co. 14 ..... gas
Courtney & Co., United F. G. Co. 3 ..... gas
Courtney & Co., United F. G. Co. 4 ..... gas
Federal Coal Co., G. L. Cabot 21 ..... gas

CABELL COUNTY

Conner, Harshbarger O. & G. Co. 1 ..... gas
Clark, Zogg O. & G. Co. 1 ..... gas
Robinson & Co., Shipe & Co. 1 ..... gas

Wells completed 79
Production 168
Dry 17
Gas 40

CENTRAL OHIO

Summary of Field Operations

	Comp.	Prod.	Dry	Gas	Rigs	Drg.	Ttl.
Knox	0	0	0	0	2	1	3
Ashland	3	0	2	1	0	15	15
Medina	1	10	0	0	1	4	4
Lorain	1	0	1	0	3	0	4
Wayne	1	0	1	0	2	5	7
Holmes	7	160	1	5	3	5	8
Coshocton	3	150	2	0	1	3	4
Cuyahoga	6	25	0	4	0	8	8
Guernsey	1	5	0	0	0	6	6
Gallia	2	0	0	2	3	1	4
Starke	0	0	0	0	0	1	1
Fairfield	0	0	0	0	0	1	1
Richland	0	0	0	0	0	1	1
Carroll	0	0	0	0	0	1	1
Summitt	0	0	0	0	0	1	1
Licking	1	0	1	0	0	0	0
Total Jan.	28	353	7	15	13	57	69
Total Dec.	38	10	12	25	15	71	86
Difference	10	343	5	10	3	14	17

WELLS COMPLETED
ASHLAND COUNTY

Sullivan—J. A. Spencer, The Kemrow Co. 5 ..... gas
Clear Creek—J. C. Farquahausen, Ringler & Co. 1 ..... dry
M. Brandeen, Hulse & Kundtz ..... dry

Wells completed 3
Dry 2
Gas 1

MEDINA COUNTY

Chatham—T. W. Brinker, Oko Oil & Gas 10 10

LORAIN COUNTY

Columbia—C. L. Burk, Ohio Fuel Gas 1 gas
L. D. & J. Richards, Ohio Fuel Gas 1 gas
G. W. & M. B. Brooks, Empire Gas & Fuel 1 ..... gas

Wells completed 3
Gas 3

WAYNE COUNTY

Chester—H. Hartzel, M. C. & G. K. Rogers 1 ..... dry

Wells completed 7
Oil wells 1
Production, oil 160
Dry 1
Gas 5

COSHOCTON COUNTY

Monroe—C. L. Dalrymple, East Ohio Gas 1 ..... dry
George Snow, Empire Gas & Fuel 1.. dry
Perry—J. Wilson, Preston Oil 1 150

Wells completed 3
Oil wells 1
Production, oil 150
Dry 2

CUYAHOGA COUNTY

Olmstead—J. R. Hall, The Logan Gas 1 gas
D. Renton, John Arthur 1 ..... gas
A. W. Eldred, Hulse & Kundtz 1 ..... gas
W. D. Camp, J. B. Harrison & Co. 1 10
Schuman, North Olmstead Bank, Trustee 1 15
Strongville—H. & M. Whitney, Empire Gas & Fuel 2 ..... gas

Wells completed 6
Oil wells 2
Production, oil 25
Gas 4

GUERNSEY COUNTY

Washington—Elmer Reed, Birmingham Oil & Gas 2 8

GALLIA COUNTY

Addison—W. H. Reynolds, Gordon Oil 1 gas
Lamp 53-A, Ohio Fuel Gas 1 ..... gas

Wells completed 2
Gas 2

LICKING COUNTY

Union—Lillian Pugh, Bell Bros. & Co. 1 dry

HOLMES COUNTY

Hardy—D. Nethrow, Empire Gas & Fuel 6 160
Monroe—M. G. Bird, Empire Gas & Fuel 1 ..... gas
William Martin, Empire Gas & Fuel 1 dry
Knox—C. E. Kaylor, Arkansas F. O. 1 gas
J. G. Silsline, East Ohio Gas 1 ..... gas
Richland—Prudence Mullett, The Kemrow Co. 1 ..... gas
C. P. Allison, The Kemrow Co. 1 ..... gas

LIMA FIELDS

Summary of Field Operations

	Comp.	Prod.	Dry	Gas	Rigs	Drg.	Ttl.
Wood	1	12	0	0	3	1	4
Hancock	2	50	0	0	0	2	2
Allen	1	50	0	0	2	0	2
Auglaize	0	0	0	0	0	7	7
Sandusky	0	0	0	0	0	1	1
Mercer	0	0	0	0	0	4	4
Van Wert	1	2	0	0	0	1	1
Seneca	2	10	1	0	0	1	1
Lucas	1	0	0	1	0	1	1
Ottawa	1	0	0	1	0	0	0
Shelby	1	10	0	0	0	0	0
Hardin	1	40	0	0	0	1	1
Darke	0	0	0	0	0	1	1
Wyandot	0	0	0	0	0	1	1
Total Jan.	11	174	1	2	6	20	26
Total Dec.	14	205	3	0	7	25	32
Difference	3	31	2	2	1	5	6

WELLS COMPLETED
WOOD COUNTY

Perryville—George F. Snyder, W. F. Johnson 4 12

HANCOCK COUNTY

Eagle—Henry Deeds, B. Porter & Co. 22 25
Biglick—C. S. Chambers, Ridge Oil & Gas Synd. 4 25

Wells completed 2
Production 50

ALLEN COUNTY

Bath—Nancy E. Leedy, W. W. Bois 1 50
American—D. L. Bechtol, The Ohio Oil 2 ..... abd

Wells completed 1
Production 50
Abandoned 1

VAN WERT COUNTY

Jennings—Phil Louth, J. H. Reynolds & Co. 6 2

SENECA COUNTY

Liberty—David Hunker, J. H. Murphy & Son 3 ..... dry
Andy Kimmitt, The Wiser Oil 1 10

Wells completed 2
Production 10
Dry 1

LUCAS COUNTY

Waterville—U. S. Denman, Waterville Gas & Oil 3 ..... gas

OTTAWA COUNTY

Catawba—John P. Caigney, Catawba Oil & Gas 1 ..... gas

SHELBY COUNTY

Cynthian—N. A. Paulis, Ellerman Oil 4 10

HARDIN COUNTY

McDonel—Mary J. Austine No. 2, Roundhead Oil & Gas 5 40

INDIANA FIELDS

Summary of Field Operations

	Comp.	Prod.	Dry	Gas	Rigs	Drg.	Ttl.
Wells	0	0	0	0	0	1	1
Blackford	0	0	0	0	0	2	2
Jay	1	0	1	0	0	3	3
Grant	0	0	0	0	0	2	2
Huntington	0	0	0	0	0	1	1
Randolph	0	0	0	0	0	1	1
Delaware	0	0	0	0	0	1	1
Gibson	4	23	1	0	0	7	7
Pike	2	95	0	0	0	0	0
Daviess	0	0	0	0	0	4	4
Sullivan	4	165	0	0	0	4	4
Vigo	5	180	0	0	0	5	5
Allen	0	0	0	0	2	2	4
Knox	0	0	0	0	0	1	1
Dubois	0	0	0	0	0	1	1
Johnson	0	0	0	0	3	0	3
Benton	0	0	0	0	0	1	1
Marion	0	0	0	0	0	1	1
Fountain	0	0	0	0	0	1	1
Martin	0	0	0	0	0	2	2
Monroe	0	0	0	0	0	1	1
Spencer	1	0	1	0	0	0	0
Bartholomew	0	0	0	0	0	1	1
Miami	0	0	0	0	0	1	1
White	0	0	0	0	0	1	1
Montgomery	0	0	0	0	0	1	1
Lagrange	0	0	0	0	0	1	1
Wabash	0	0	0	0	0	1	1
Greene	0	0	0	0	0	1	1
Henry	0	0	0	0	0	1	1
Harrison	0	0	0	0	0	2	2
Total Jan.	17	463	3	0	5	61	66
Total Dec.	14	40	10	2	5	63	68
Difference	3	423	7	2	0	12	12

WELLS COMPLETED
JAY COUNTY

Penn—Wabash Bank Co., George Northrup 1 ..... dry

GIBSON COUNTY

Washington—J. E. Zimmerman, Wm. Bell & Co. 2 18
John Zimmerman, The Ohio Oil 11 6
Ira Seifers, Wm. Bell & Co. 1 6
Barton—John Riley, Bell Bros. 2 ..... dry

Wells completed 4
Production 13
Dry 1

PIKE COUNTY

Clay—Jess Lindy, Wm. Bell & Co. 1 .. 15
Logan—Enos Loveless, P. C. Andrews 9 70

Wells completed 3
Production 95

SULLIVAN COUNTY

Fairbanks—John A. Thomas, Siosi Oil Corp. 5 35
John A. Thomas, Siosi Oil Corp. 8 60
Chas. Scott, Baldridge, Whittacher & Co. 1 60
J. T. Mayfield, Bays & Co. 1 60

Wells completed 4
Production 165

VIGO COUNTY

Prairie Creek—Wm. Riggs, Siosi Oil Corp. 6 60
Wm. Riggs, Siosi Oil Corp. 9 30
Wm. Riggs, Siosi Oil Corp. 10 30
Wm. Riggs No. 2, Siosi Oil Corp. 2 .. 30
Wm. Riggs No. 2, Siosi Oil Corp. 3 .. 30

Wells completed 5
Production 150

SPENCER COUNTY

Jackson—Hoover, Premium Oil 2 ..... dry

ILLINOIS FIELDS

Summary of Field Operations

	Comp.	Prod.	Dry	Gas	Rigs	Drg.	Ttl.
Clark	0	0	0	0	0	3	3
Cumberland	0	0	0	0	0	2	2
Crawford	1	0	1	0	1	5	6
Lawrence	1	10	0	0	0	3	3
Wabash	3	41	1	0	0	4	4
Morgan	1	1	0	0	0	0	0
Marshall	0	0	0	0	0	1	1
Macon	0	0	0	0	0	1	1
Madison	0	0	0	0	0	2	2
Shelby	0	0	0	0	0	1	1
St. Clair	0	0	0	0	0	1	1
Tazwell	0	0	0	0	0	1	1
Total Jan.	6	59	2	0	1	24	25
Total Dec.	12	55	7	0	4	25	29
Difference	6	4	5	0	3	1	4

WELLS COMPLETED
CRAWFORD COUNTY

Lamotte—C. H. Apple, Frog Pond Oil 1 dry

LAWRENCE COUNTY

Lawrence—J. T. Grigg, The Ohio Oil 15 10
Bridgeport—J. L. Kimmel No. 1, The Ohio Oil 10, 24 ..... abd

Wells completed 1
Production 10
Abandoned 2

WABASH COUNTY

Wabash—Wm. M. Price, G. W. Miller & Co. 2 30
M. Madden, Mahutska Oil 8 11
M. Madden, Adams Corner Oil 13 .... dry
Ed. Armstrong, Mahutska Oil 1 ..... abd
Friendsville—O. Matheney, Hartman & Co. 1 ..... abd
C. Matheney, Everet & Co. 1 ..... abd
E. Bass, Healey & Co. 1, 2 ..... abd
C. H. Canary, Arkansas Fuel Oil 1 .. abd
Olive A. Price, Arkansas Fuel Oil 1 abd

Wells completed 3
Production 41
Dry 1
Abandoned 7

MORGAN COUNTY

Jacksonville—Travis, Timberlake & Higgins 10 1

MICHIGAN FIELDS

Summary of Field Operations

	Comp.	Prod.	Dry	Gas	Rigs	Drg.	Ttl.
Saginaw	0	0	0	0	2	2	4
Gratiot	1	20	0	0	0	1	1
Muskegon	0	0	0	0	0	1	1
Shiawassee	0	0	0	0	0	1	1
Crawford	0	0	0	0	0	1	1
Charlevoix	0	0	0	0	0	1	1
Midland	0	0	0	0	0	1	1
Roscommons	0	0	0	0	0	1	1
Sanilac	0	0	0	0	0	1	1
Isabelle	0	0	0	0	1	0	1
Alpena	0	0	0	0	0	1	1
Total Jan.	1	20	0	0	3	10	13
Total Dec.	10	58	5	1	2	10	18
Difference	9	38	5	1	1	0	1

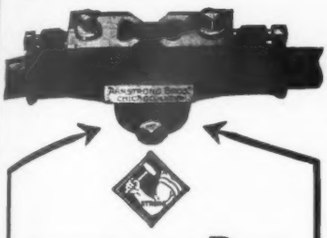
WELLS COMPLETED
GRATIOT COUNTY

Elba—C. B. Horrie, Miller & Co. 1 20

KENTUCKY-TENNESSEE

Summary of Field Operations

	Comp.	Prod.	Dry	Gas	Rigs	Drg.	Ttl.
Warren	4	10	1	0	0	9	9
Allen	1	1	0	0	0	13	13
Barren	4	45	0	0	0	15	15
Ohio	27	1,425	11	0	0	47	47
Daviess	6	60	2	7	13	22	35
McLean	0	0	0	0	0	5	5
Hancock	0	0	0	0	1	2	3
Cumberland-Monroe	0	0	0	0	0	1	1
Clinton	0	0	0	0	0	2	2
Butler	0	0	0	0	0	1	1
Hopkins	0	0	0	0	0	1	1
Henderson-Union	1	25	0	0	0	2	2



Armstrong Bros.
ADJUSTABLE
Pipe Dies and Stocks
IMPROVED DESIGN
CUT LIKE LATHE TOOLS
Dies are Alloy Tool Steel. Chasers are backed off making them easy cutting and long lasting.
Write for free catalog
ARMSTRONG BROS. TOOL CO.
330 No. Francisco Ave., Chicago, U.S.A.

DIVIDEND NOTICE
Imperial Royalties Company
Will pay monthly dividend of 1½% to Preferred Shareholders on February 29. This is Dividend No. 89 and makes a total of 154% paid to shareholders.
E. S. HORN,
H. O. BLAND,
J. E. HORN, Trustees.
338 Mayo Building, Tulsa, Okla.

OIL MAPS
Panhandle, West Texas, Western Oklahoma, New Mexico
AMARILLO ABSTRACT CO.
Amarillo, Texas

ARTHUR C. BROWN
SOLICITOR OF UNITED STATES AND FOREIGN PATENTS
406-412 KENNEDY BLDG.
Tulsa, Okla.
Mr. Fred Krueger in Charge
Phone 4-2319

EDWIN B. HOPKINS
CONSULTING GEOLOGIST
25 Broadway
NEW YORK

Chester W. Washburne
Geologist and Engineer
27 William St., N. Y.

PATENTS *Write for Free Book*
MUNN & CO.
Associated for 81 years with the Scientific American
1351 Scientific American Building
24 West 40th Street, *New York City*
3145 Scientific American Bldg., *Washington, D.C.*
1303 Tower Building, *Chicago, Ill.*
656 Hobart Building, *San Francisco, Cal.*
311 Van Nuys Building, *Los Angeles, Cal.*

TEXAS OIL MAPS
County and District Catalog on Application
HEYDRICK MAPPING COMPANY
Wichita Falls, Texas

Muhlenberg ..	0	0	0	0	0	1	1
Breckenridge .	1	20	0	0	0	1	1
Wayne	2	5	0	0	0	2	2
Estill	3	10	1	0	0	7	7
Lee-Owsley	0	0	0	0	0	2	2
Wolfe	1	5	0	0	0	0	0
Johnson-Magoffin ...	6	22	1	0	0	3	3
Floyd-Knott ..	1	0	0	1	0	2	2
Knox	0	0	0	0	0	4	4
Total Ky. ..	57	1,638	16	1	14	140	154
Totall Tenn..	0	0	0	0	0	39	39
Total Miss...	0	0	0	0	9	20	29
Total Ala....	0	0	0	0	0	7	7
Total Fla. ..	0	0	0	0	0	13	13
N. Carolina .	1	0	1	0	0	0	0
Total Jan. ..	58	1,638	17	1	23	219	242
Total Dec. ..	82	2,260	32	5	14	211	225
Difference...	24	622	15	4	9	8	17

WELLS COMPLETED
WARREN COUNTY

Bowling Green—Elizabeth Morehead. G. B. Dunning 8 3
Henry Lazarus, Grace S. Bratin 1 .. 3
H. M. Bryant, Thompson Oil 9 4
J. W. Vanmeter, Orrin Wood 1 ..... dry

Wells completed 4
Production 10
Dry 1

ALLEN COUNTY

Scottsville—Will Hendrix, Sayer & Thompson 5 1

BARREN COUNTY

Glasgow—Christ Ellis, Ogle & Co. 4 .. 5
Browning, Samson Oil 11 15
Browning, Samson Oil 12 15
E. Nichols, J. D. White & Co. 7 .. 10

Wells completed 4
Production 45

OHIO COUNTY

Hartford—D. S. Gray, The Ohio Oil 5 8
James C. Ellis, The Ohio Oil 12 10
Arch Rhodes, The Ohio Oil 1 .... dry
Mary J. Elmore, Wood Oil 21 75
Mary J. Elmore, Wool Oil 22 125
Mary J. Elmore, Wood Oil 23 100
A. S. Wright, Wood Oil 1 ..... dry
Ollie Ezell, Daley, Lohman & Co. 3.. 100
John Dodson, White Plains Oil & Gas 1 ..... dry
Ada Keith, James C. Ellis 3 150
Vincent Crowe, James C. Ellis 1 .... dry
Magnolia Smith, James C. Ellis 1 .... dry
Jane Daniels, James C. Ellis 1 150
J. R. Weller No. 2, James C. Ellis 3 200
Wilbur King, Spence & Co. 1 ..... dry
Don Mitchell, Garrison & Evans 1 .. dry
Mark Renfrew, Earl Patton 2..... 75
Joe Bellomy, Oliver Jenkins & Co. 1 10
A. P. Kelly, S. H. Rusell & Co. 4 7
Tice Baker, Sunnydale Oil & Gas 1 .. dry
L. Trodgen, Pompos Oil 2 ..... dry
Bartlett hrs., Creek Drilling 4 150
Bartlett hrs., Creek Drilling 5 150
R. B. Powers, Wah Shah She Oil 4 dry
Mark Renfrew, Earl Patton 3 100
J. C. Park, Young, Goldberg & Co. 1 25
Rufus King, Cy Johnson 1 ..... dry

Wells completed 27
Production 1435
Dry 11

DAVIESS COUNTY

Owensboro—Boyd Bristow, Evans, Young & Co. 1 30
John Roby, Lee Birk & Co. 1 5
T. J. Higdon, Dr. Emmett & Co. 2 .. dry
Hedges, Unknown parties 1 ..... dry
W. L. Barnett, Leeper Oil 3 25

Wells completed 5
Production 60
Dry 2

HENDERSON-UNION COUNTIES

Corydon—Wm. Leaser, Lucien Drury 1 25

BRECKENRIDGE COUNTY

S. W. of Cloverport—O. S. McGavock, Flem Douthitt 1 20

WAYNE COUNTY

District 2—Huffaker, B. S. Huffaker 5 3
District 5—Randall Ramsey, Kentucky-Indiana Oil 14 2

Wells completed 2
Production 5

ESTILL COUNTY

District 8—Isaac Henry, Wood Oil 5 .. 5
Henry Miller, Superior Oil Corp. 7 .. dry
District 7—John Beckley, Unknown parties 1 5

Wells completed 3
Production 10
Dry 1

WOLFE COUNTY

District 20—Day hrs., August Girard & Co. 1 5

JOHNSON-MAGOFFIN COUNTIES

District 27—W. L. May, S. J. Patrick 3 4
Janex Penix, Loleer & Co. 1 5
Conley hrs., Woodruff Des L. 1 3
Geo. Collins, Adams & King 1 ..... dry
District 29—Milt Tackett, Hamlin-Tanner Oil 3 5
District 31—Dug Bailey, Hupp. Duff & Co. 1 5

Wells completed 6
Production 22
Dry 1

FLOYD-KNOTT COUNTIES

District 21—Frank Gearhart, United Carbon Black 3 ..... gas

NORTH CAROLINA
SAMPSON COUNTY

Near Clinton—Jim Simmons, Orr. Wherry & Co. 1 ..... dry

MAGNOLIA P. L. STATEMENT

The Magnolia Petroleum Co.'s pipe line division reports runs from the Oklahoma-Kansas territory in January of 2,127,721 bbls.; shipments 1,803,315 bbls.; stocks at close of January in the two states 7,408,893 bbls. This is an increase of 371,457 bbls. or an average of 11,982 bbls. per day.

Ross-Meehan Foundries
Manufacturers
"Electric Steel Castings—Electrically Annealed," "Certified Malleable Iron Castings," "Meehanite Metal Castings," Gray Iron Castings, and Special Analysis Castings.
For
Oil Producers and Refiners
River Clamps a Specialty
Chattanooga, Tenn., U. S. A.

CARBON (BLACK DIAMONDS) FOR DIAMOND CORE DRILLS

— IMPORTERS —
INDUSTRIAL DIAMONDS
— MANUFACTURERS —
DIAMOND POINTED TOOLS FOR ALL MECHANICAL PURPOSES
WRITE OR WIRE FOR CATALOGUE AND FULL PARTICULARS
THE DIAMOND DRILL CARBON CO.
61 PARK ROW, NEW YORK, N.Y. CABLE ADDRESS, CREDOTAN, N.Y.

For Gauging, Strapping and General Measuring Use

LUFKIN TAPES AND RULES

Accurate—Sturdy—Convenient
Send for Catalog
THE LUFKIN RULE CO. SAGINAW, MICH.
Windsor, Ont. New York City

Ventilators

Southern Cornice Works
Oil Field Work a Specialty

Phone 2-1546
118-120 So. Cincinnati
TULSA, OKLA.

SPECIALISTS in
Natural Gas Financing
Zwetsch, Heinzelmann & Co.
Inc.
57 William Street New York
Telephone John 3676

STEEL PLATE CONSTRUCTION
Stills, Refinery equipment of every kind.
Steel Oil Storage Tanks, Condensers,
Fabricated and Erected
RITER-CONLEY COMPANY
General Offices—Pittsburgh, Pa.

Oklahoma-Kansas and Eastern Pipe Line Report

OKLAHOMA-KANSAS

Pipe Line Statement for December

Runs

	Month	Dy. Av.
*Prairie Pipe Line Co.	4,588,000	148,000
Gulf Pipe Line Co.	1,599,078	51,583
Texas Pipe Line Co.	1,399,930	45,159
Magnolia Petroleum Co.	2,037,196	65,716
Empire Pipe Line Co.	996,436	32,143
Cosden Pipe Line Co.	922,071	29,745
Sinclair Pipe Line Co.	2,755,257	88,879
Oklahoma Pipe Line Co.	3,524,893	113,706
Other lines	7,812,000	252,000
Total December	25,634,861	826,931
Total November	26,397,277	879,908
Difference	762,416	52,977

Shipments

†Prairie Pipe Line Co.	5,344,811	172,413
Gulf Pipe Line Co.	1,430,717	46,151
Texas Pipe Line Co.	1,026,540	33,114
Magnolia Pipe Line Co.	1,919,104	61,926
Empire Pipe Line Co.	1,173,543	37,856
Cosden Pipe Line Co.	961,640	31,021
†Sinclair Pipe Line Co.	2,760,260	89,039
Oklahoma Pipe Line Co.	3,756,812	121,189
*Other lines	7,471,000	241,000
Total December	25,845,087	833,709
Total November	25,916,037	863,867
Difference	70,950	30,158

Stocks

Prairie Oil & Gas Co.	32,020,000
Prairie Pipe Line Co.	2,500,000
Gulf P. L. Co. & Gypsy Oil Co.	10,305,347
The Texas Company	6,034,332
Magnolia Petr. Co.	7,037,436
Empire P. L. Co.	4,400,438
Cosden P. L. Co.	3,365,765
Sinclair Crude Oil Pur. Co.	20,870,000
Oklahoma P. L. Co.	2,705,692
Carter Oil Co.	15,832,798
Other lines	11,600,000
Total December	116,671,808
Total November	114,952,561
Difference	1,719,247

*Estimated. †Prairie shipments include Texas crude oil and Sinclair shipments include Texas and Wyoming crude oil.

Note: Stocks do not include approximately 6,000,000 bbls. of crude oil held in storage on private tank farms and leases and 1,500,000 bbls. of Texas Panhandle crude oil in storage in Oklahoma and Kansas.

EASTERN PIPE LINES

Runs from Wells

In the following table will be found the regular receipts from wells by various pipe lines in New York, Pennsylvania, West Virginia, Ohio, Kentucky and Indiana for November and December:

	Nov., 1927	Dec., 1927
Nat. Transit	138,601.66	135,509.47
S. W. Pa. P. L.	85,325.67	83,623.87
Eureka P. L.	364,643.37	357,187.02
Buckeye P. L. (Macksb'g)	314,900.41	317,414.13
Buckeye P. L. Cleve.)	12,030.90	11,590.15
Buckeye P. L. (Lima, etc.)	105,956.52	104,528.08
Indiana P. L.	7,189.17	7,062.60
Cum'land P. L.	236,613.60	226,646.29
N. Y. Transit	21,173.39	22,279.13
Tidewater P. L.	182,622.58	184,686.44
Pure Oil	152,816.95	100,041.39
Emery P. L.	56,468.37	56,312.05
Paragon Dev.	27,069.78	25,971.71
Stoll Oil Ref.	12,843.77	12,870.98
Total	1,718,256.14	1,645,673.31
Daily average	57,275.20	53,088.82

Note: Indian Refining Co. also reported other receipts of 307,806.71 bbls. Paragon Refining Co. had other receipts of 152,908.52 bbls. Paragon Development had other receipts of 1,398.77 bbls.

Petroleum Deliveries

The following tables exhibit the shipments or regular deliveries of various pipe lines in New York, Pennsylvania, West Virginia, Ohio, Kentucky and Indiana for November and December:

	Nov., 1927	Dec., 1927
Nat. Transit	319,056.21	433,663.76
S. W. Pa. P. L.	375,867.86	374,669.37
Eureka P. L.	192,438.78	194,894.42
Buckeye P. L. (Macksb'g)	152,463.55	134,693.87
Buckeye P. L. (Cleve.)	969.42	1,211.85
Buckeye P. L. (Lima, etc.)	1,013,132.41	846,994.35
Indiana P. L.	1,116,902.96	1,163,206.72
Cum'land P. L.	145,443.98	144,182.95
N. Y. Transit	175,265.57	141,302.60
Northern P. L.	178,350.74	176,227.12
Tidewater P. L.	111,596.80	155,569.24
Pure Oil	177,134.58	123,788.25
Emery P. L.	54,750.52	56,494.34
Paragon Ref.	168,246.24	150,525.40
Indian Ref.	319,181.35	363,972.95
Paragon Dev.	29,362.95	28,229.67
Total	4,529,263.92	4,479,636.91
Daily average	150,975.46	144,504.42

Gross Stocks

The gross stocks held by various pipe lines in the oil-producing sections of New York, Pennsylvania, West Virginia, Ohio, Indiana and Kentucky at the close of November and December:

	Nov., 1927	Dec., 1927
Nat. Transit	1,108,601.66	1,187,950.32
S. W. Pa. P. L.	715,524.91	739,481.15
Eureka P. L.	1,729,737.61	1,702,403.70
Buckeye P. L. (Macksb'g)	396,287.92	435,355.19
Buckeye P. L. (Cleve.)	50,691.02	41,685.80
Buckeye P. L. (Lima, etc.)	4,695,838.16	4,943,834.32
Indian P. L.	647,290.51	644,480.85
Cum'land P. L.	594,822.46	614,861.45
Southern P. L.	386,756.90	409,639.89
N. Y. Transit	510,190.02	609,588.23
Northern P. L.	547,199.31	537,115.66
Pure Oil	394,386.96	369,284.08
Emery P. L.	12,543.82	1,686.27
Paragon Ref.	13,179.46	15,272.42
Indian Ref.	129,403.33	71,648.15
Paragon Dev.	7,276.88	6,009.77
Total	11,939,740.92	12,340,297.25
Decrease	107,919.71	
Increase		400,556.32

Grades of Oil

The following table shows the amount of the different grades of oil held by the Eastern pipe lines at the close of November and December, showing the gross stocks of the above fields:

	Nov., 1927	Dec., 1927
Penn'a	4,076,710.10	4,225,582.93
Lima	1,177,864.75	1,196,691.27
Kentucky	1,089,857.44	1,069,560.04
Mid-Continent	5,519,125.98	5,855,777.46
Illinois	76,182.66	82,685.61
Total	11,939,740.93	12,340,297.25

Daily Average Runs

The following table shows the daily average runs of the Pennsylvania, Lima and Kentucky oil fields for the past four years:

	1924	1925	1926	1927
Jan.	62,638	56,831	55,630	56,209
Feb.	68,023	60,606	60,294	61,293
Mar.	68,721	60,575	61,644	63,247
April	71,058	63,062	63,019	60,337
May	63,942	59,217	60,580	60,284
June	63,230	61,270	64,131	62,757
July	64,208	62,639	63,206	68,574
Aug.	59,942	59,686	61,815	60,870
Sept.	62,930	62,510	64,639	60,285
Oct.	64,976	60,995	62,704	57,499
Nov.	56,282	59,350	61,774	57,275
Dec.	55,814	57,974	58,755	52,089

Daily Average Shipments

The following table gives daily average shipments from the Pennsylvania, Lima and other fields for the past four years:

	1924	1925	1926	1927
Jan.	145,518	157,889	156,056	141,227
Feb.	148,732	160,863	159,485	138,534
Mar.	147,098	154,591	150,239	133,777
April	147,611	151,429	152,371	140,227
May	134,997	146,995	160,998	144,394
June	143,010	149,467	160,257	149,772
July	124,187	161,338	160,005	151,350
Aug.	123,120	161,730	151,929	138,653
Sept.	127,325	156,719	158,915	144,213
Oct.	123,170	145,388	161,132	147,036
Nov.	124,400	143,582	152,668	150,975
Dec.	151,392	150,162	136,428	144,504

Gross Stocks

In the following table will be found the gross stocks of the various lines of the Pennsylvania, Lima and Kentucky oil fields, including oil received from other lines at the close of each month for the past three years:

	1925	1926	1927
Jan.	11,353,276	9,859,170	9,718,993
Feb.	11,192,924	9,579,354	10,119,183
Mar.	11,158,297	9,438,292	10,794,044
April	11,062,082	9,805,851	11,112,295
May	11,207,562	9,531,757	11,359,381
June	11,093,796	9,585,904	11,494,672
July	11,067,453	9,734,687	11,455,133
Aug.	10,974,481	9,168,947	11,989,115
Sept.	10,781,753	9,433,732	12,213,716
Oct.	11,086,850	9,269,806	12,047,661
Nov.	11,068,158	9,257,667	11,939,740
Dec.	10,458,445	9,454,512	12,340,297

Franklin Pipe Line Co.

The following table exhibits the condition of the Franklin Pipe Line at the close of business for the months named and not counted in the stocks and averages reported above:

	Runs	Shipments	Stocks
1926—			
Nov.	2,810.60	1,664.55	15,917.31
Dec.	2,847.52	5,561.11	13,103.72
1927—			
Jan.	2,641.54	1,470.42	14,274.84
Feb.	2,764.30	1,082.83	15,956.31
Mar.	2,587.20	1,878.56	16,664.95
April	2,834.22	1,512.65	17,986.54
May	2,768.40	539.29	20,215.71
June	2,946.29	664.40	22,497.61
July	3,153.39	1,276.61	24,374.39
Aug.	3,057.89	3,713.11	18,718.17
Sept.	3,309.56	2,656.48	19,372.25
Oct.	2,801.32	1,226.99	20,946.58
Nov.	2,746.50	2,220.53	21,473.56

The Illinois Field

The following table gives the report of the Illinois Pipe Line Co. in Illinois:

Gross stocks, Jan. 1	1,966,012.91
Other receipts	550,532.33
Runs from wells	187,892.26
Regular deliveries	353,391.54
Other deliveries	511,338.17

The amount of Illinois oil run by the Tide Water Pipe Co. in December was 26,491.91 bbls. and deliveries were 44,784.53 bbls. Adding these figures to those of the Illinois Pipe Line Co. makes the runs and deliveries as follows:

1926—	Runs	Deliveries
Dec.	668,909.58	687,947.61
1927—		
January	621,421.03	630,085.91
February	595,831.16	476,956.71
March	727,593.91	554,947.43
April	593,225.97	444,818.49
May	728,759.40	643,193.01
June	640,975.55	532,537.79
July	613,901.30	484,993.53
August	651,276.40	529,331.37
September	619,589.49	433,213.49
October	601,099.25	408,287.58
November	605,621.14	415,186.06
December	577,321.25	397,176.67

Tide Water Pipe Co., Ltd., also delivered in December 111,513.09 bbls. of Oklahoma oil.

AVERAGE DAILY RECEIPTS OF CALIFORNIA OIL AT ATLANTIC AND GULF COAST PORTS

Average bbls. per day—	ATLANTIC PORTS						GULF COAST PORTS					Total All Ports
	Baltimore	Boston	New York	Philadelphia	Others	Total	Galveston	New Orleans Port Arthur Baton Rouge Sabine Pass	Tampa	Total		
August	18,516	3,065	48,129	17,323	26,000	113,032	.....	.....	.....	.....	.....	113,032
September	23,033	6,967	51,400	14,567	19,533	115,500	.....	.....	.....	.....	.....	115,500
October	20,936	4,355	47,968	14,129	14,387	101,774	.....	.....	.....	.....	.....	101,774
November	9,433	2,833	23,033	15,166	4,933	55,400	.....	.....	.....	.....	.....	55,400
December	10,742	3,033	30,258	24,387	7,065	75,484	.....	.....	.....	3,613		79,097

AVERAGE DAILY IMPORTS OF PETROLEUM AT PRINCIPAL UNITED STATES PORTS

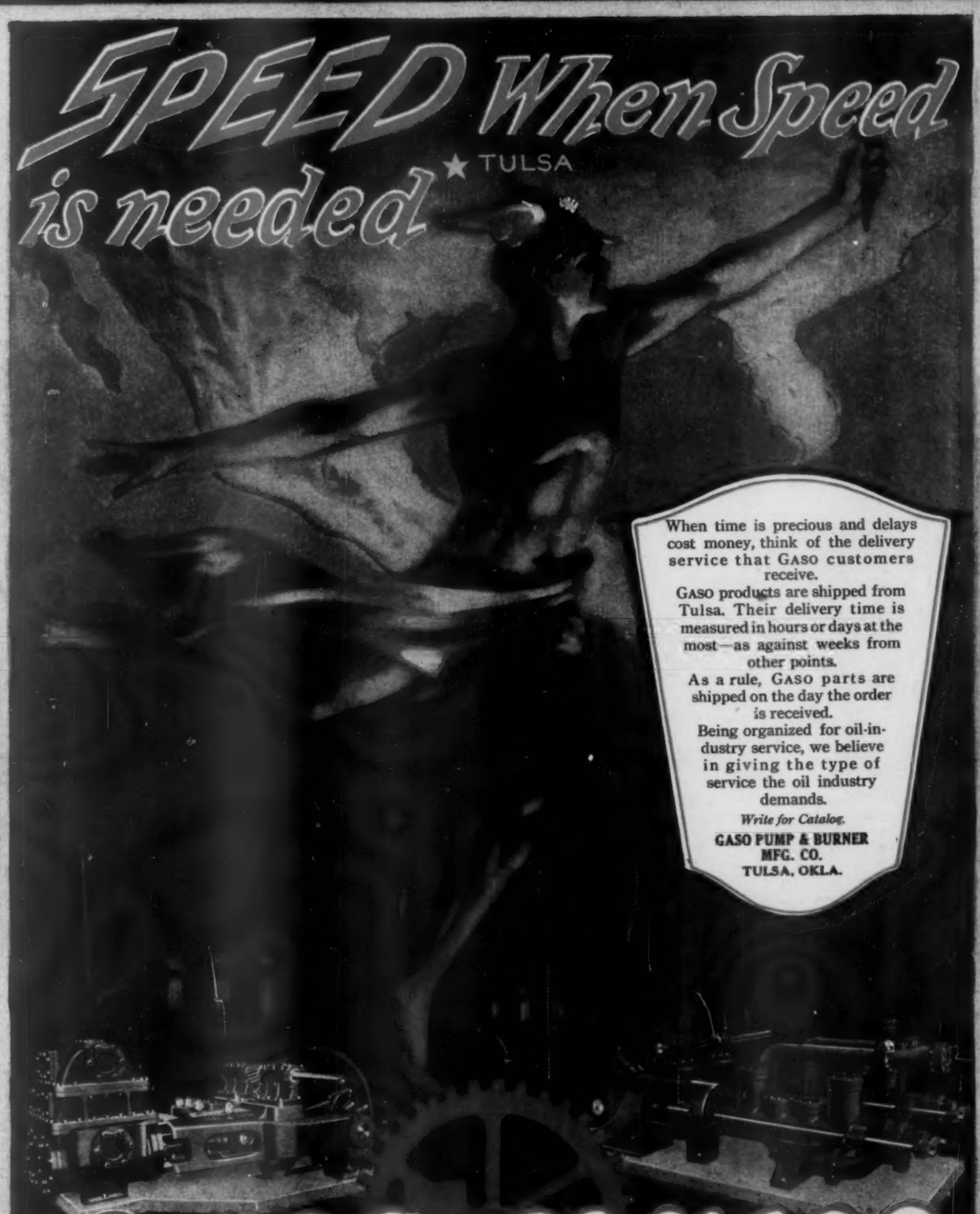
Average bbls. per day—	ATLANTIC PORTS						GULF COAST PORTS					Total All Ports
	Baltimore	Boston	New York	Philadelphia	Others	Total	Galveston	New Orleans Port Arthur Baton Rouge Sabine Pass	Tampa	Total		
August	19,323	9,032	80,903	14,258	31,821	155,387	2,097	21,161	.....	23,258		178,645
September	28,033	11,433	85,500	12,800	37,700	175,467	5,667	19,233	.....	3,600	28,500	203,967
October	26,064	13,097	79,355	3,838	34,097	156,451	1,613	19,323	806	1,871	23,612	180,064
November	25,233	8,033	84,533	30,166	27,067	184,967	4,000	26,500	2,000	1,667	34,167	219,134
December	39,968	2,387	78,968	19,097	29,836	170,258	2,580	15,356	839	1,226	20,000	190,258

GROSS PRODUCTION IN UNITED STATES FOR 12 MONTHS (REVISED)

(In Barrels)

1927—		California	Oklahoma	Texas	Kansas	Arkansas	Louisiana	Rocky Mountains	Eastern Fields	Total
January:	Month	20,184,872	19,035,426	18,565,156	3,769,878	4,076,469	1,945,777	2,648,920	3,332,500	73,558,999
	Daily average	651,125	614,046	598,876	121,609	131,499	62,767	85,449	107,500	
February:	Month	17,982,711	19,752,348	16,425,416	3,352,076	3,574,256	1,842,400	2,439,864	3,007,200	68,376,271
	Daily average	642,240	705,441	586,622	119,717	127,652	65,800	87,138	107,400	
March:	Month	19,835,724	22,480,921	18,179,491	3,675,143	3,853,920	2,086,108	2,684,724	3,335,800	76,131,831
	Daily average	639,862	725,191	586,435	118,553	124,320	67,294	86,604	105,100	
April:	Month	19,493,825	22,208,130	17,755,920	3,516,930	3,378,240	2,039,550	2,671,830	3,474,000	74,538,425
	Daily average	649,794	740,271	591,864	117,231	112,608	67,985	89,061	115,800	
May:	Month	19,506,054	23,258,463	19,489,607	3,704,314	3,493,669	1,984,651	2,682,151	3,467,000	77,585,909
	Daily average	629,228	750,273	628,697	119,494	112,699	64,021	86,521	111,839	
June:	Month	19,181,442	22,830,330	18,360,450	3,437,580	3,365,760	1,920,180	2,634,570	3,330,000	75,060,312
	Daily average	639,381	761,011	612,015	114,586	112,192	64,006	87,819	111,000	
July:	Month	19,319,021	26,522,546	17,580,348	3,454,082	3,406,683	2,311,019	2,678,679	3,363,300	78,635,679
	Daily average	623,194	855,566	567,108	111,422	109,893	74,549	86,409	108,484	
August:	Month	19,279,131	26,283,350	17,682,927	3,442,240	3,242,600	2,231,202	2,489,021	3,571,000	78,221,471
	Daily average	621,907	847,850	570,417	111,040	104,600	71,974	80,291	115,194	
September:	Month	19,064,500	24,111,660	18,322,800	3,341,340	3,032,970	2,027,070	2,268,630	3,465,000	75,633,970
	Daily average	635,483	803,722	610,760	111,378	101,099	67,569	75,621	111,774	
October:	Month	19,448,893	24,247,053	19,200,098	3,509,169	3,117,298	2,058,889	2,258,885	3,400,000	77,240,395
	Daily average	627,384	782,163	619,358	113,199	100,555	66,416	72,867	109,677	
November:	Mon h	18,516,467	23,083,380	18,628,290	3,313,650	2,906,760	1,956,960	2,234,730	3,302,500	73,943,737
	Daily average	617,216	769,446	620,943	110,455	96,892	65,232	74,491	110,083	
December:	Month	18,938,823	22,208,417	19,840,009	3,427,174	2,962,750	1,927,148	2,400,578	3,319,900	74,924,799
	Daily average	610,930	716,400	640,000	110,554	95,576	62,166	77,438	103,868	
	Total 12 months	230,751,463	276,022,024	220,030,512	41,943,577	40,411,375	24,330,954	30,092,582	40,268,200	903,850,687
	Daily average	632,196	756,225	602,823	114,914	110,716	66,660	82,445	110,324	2,476,305

SPEED When Speed is needed ★ TULSA



When time is precious and delays cost money, think of the delivery service that GASO customers receive.

GASO products are shipped from Tulsa. Their delivery time is measured in hours or days at the most—as against weeks from other points.

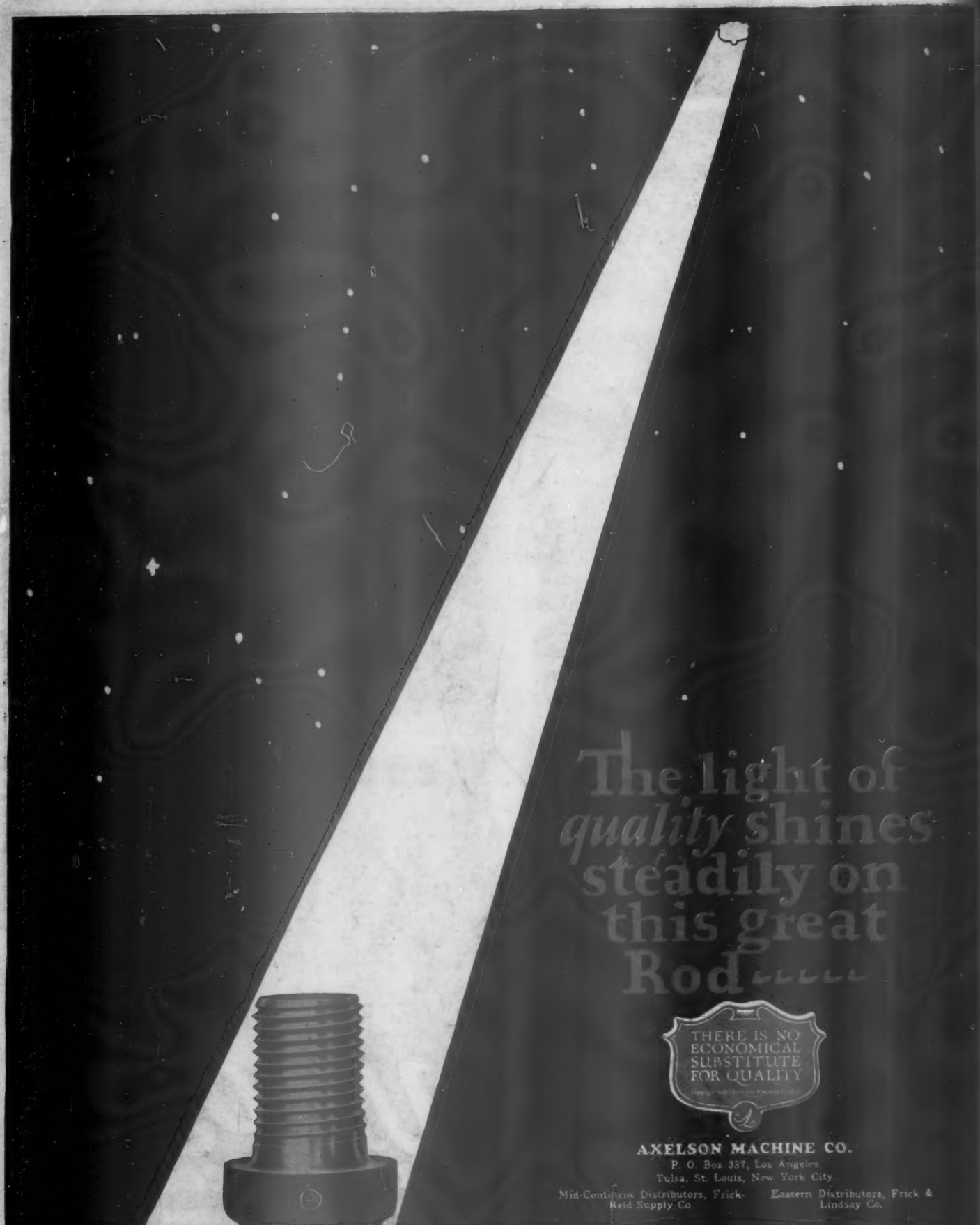
As a rule, GASO parts are shipped on the day the order is received.

Being organized for oil-industry service, we believe in giving the type of service the oil industry demands.

Write for Catalog.

GASO PUMP & BURNER MFG. CO.
TULSA, OKLA.

GASO PUMPS
for every oil industry need



AXELSON A·P·I·SUCKER RODS

..... now on full Production